

THE
CALCUTTA JOURNAL
OF
MEDICINE:

A MONTHLY RECORD OF THE MEDICAL AND AUXILIARY SCIENCES.

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तदेव युक्तं भैषज्यं यदारोग्याय कल्पते ।  
सचैव भिषजां श्रेष्ठो रोगेभ्यो यः प्रमोचयेत् ।

चरकसंहिता ।

That alone is the right medicine which can remove disease :  
He alone is the true physician who can restore health.

*Charaka Samhitā.*

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VOL. XV

Calcutta:

PRINTED AND PUBLISHED BY P. SIRCAR, ANGLO-SANSKRIT PRESS,
51, BANGARITOLA.

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1896.

THE
CALCUTTA JOURNAL
OF
MEDICINE

VOL. XV.] **January. 1896.** [NO. 1.

BACTERIOLOGY; AND THE IMPERIAL BACTERIO-
LOGICAL INSTITUTE OF INDIA.

The study of microscopic organisms has resulted in a branch of biology which has revolutionized medicine. This new branch has received the name of Bacteriology, from a Greek word which means a small stick, staff, or rod, from the fact that most of the organisms under notice are stick or rod shaped. With the progress of investigation, organisms have to be recognised, from the modes of their origin, development and function, as coming under this class, though their shapes were not strictly rod-like.

The science may be said to date from the time, now upwards of two-hundred years ago, when Leeuwenhoek first detected with his rude microscope, minute organisms in the saliva and putrid water. For a long time, from the fact of most of these organisms possessing the power of locomotion they were regarded as animalcules or microscopic organisms belonging to the animal kingdom, and Erhenberg and Dujardin included them among Infusoria under the name of *Vibronia*. But though it was soon discovered that not only locomotion was not the monopoly of animals but that some animals were as fixed as the higher members of the vegetable kingdom, there was another fact which contributed to the continuance of the mistake which referred them to animals. This was the mode of their deriving nourishment, which was fundamentally the same as that of animals. Like animals they were found to feed on the products of decomposition of plants

and animals, and incapable of feeding on the carbonic anhydride and other inorganic substances contained in the surrounding medium.

It was Cohn who in 1853 showed that in point of morphology and development they own a kinship to plants. He referred them to the Algæ, though he thought that the absence of chlorophyll brought them nearer to Fungi. Nägeli in 1857 definitely classed them with the latter, and from the fact of their multiplying chiefly by transverse fission, called them Schizomycetes; but as they also multiply by the formation of spores, the name is not strictly correct. "The belief," according to Crookshank," is rapidly gaining ground that the lowest forms of vegetable life cannot be divided by a hard and fast line into a series with chlorophyll (*Algae*) and a series without it (*Fungi*), and the tendency now is to solve the difference of opinion between Cohn and Nägeli by following the example of Sachs, and amalgamating the two series into one group, the *Thallophytes*."

The most remarkable fact regarding micro-organisms is that in one form or another they are found to be present almost everywhere-- "in air, water, and soil; in the mouths of men as well as on the walls of their houses; on the hair of the head and the toes of the feet; in chalk and coal; in food and drink; but especially where there is disease, death, and decomposition." The bard of the Seasons uttered no exaggeration when, under inspiration, no doubt, from the crude science of his day, he said:

Full nature swarms with life, one wondrous mass
Of animals, or atoms organised,
Wanting the vital breath, when Parent-Heaven
Shall bid his spirit blow. The hoary fen
In putrid streams, emits the living cloud
Of pestilence. Through subterranean cells,
Where searching sunbeams scarce can find a way,
Earth animated heaves. The flowery leaf
Wants not its soft inhabitants. Secure,
Within its winding citadel, the stone
Holds multitudes. But chief the forest-boughs,
That dance unnumbered to the playful breeze,
The downy orchard, and the melting pulp
Of mellow fruit, the nameless nations feed
Of evanescent insects. Where the pool
Stands mantled over with green, invisible
Amid the floating verdure millions stray.
Each liquid too, whether it pierces, soothes,
Inflames, refreshes, or exalts the taste,
With various forms abounds. Nor is the stream
Of purest crystal, nor the lucid air,
Though one transparent vacancy it seems,
Void of their unseen people.

But while science has thus revealed a state of things which the mind cannot contemplate without a sense of insecurity and

dread, she has at the same time made the consolatory discovery that all microscopic organisms are not our secret foes, that many of them are our true friends being the foes of our foes, and that on the vital activity of a large number of them, the maintenance of our health and many of the comforts of life depend, so that if, under her guidance, we take the proper precautions, we need not "from cates ambrosial, and the nectar'd bowl abhorrent turn," nor be afraid of enjoying life in the fullest measure. The precautionary measures, as regards a large number of infectious and miasmatic diseases, have been already formulated, but many more have yet to be discovered, and many errors have to be corrected before we can be said to be absolutely forewarned and forearmed.

The association of micro-organisms with disease has naturally invested their study with peculiar importance. The first suspicion of this association was suggested by the discovery that a class of fermentations depends upon the presence of specific micro-organisms in the fermentiscible liquids. Putrefaction was very properly looked upon as a sort of fermentation, and microscopists were led to be on the look out for the presence of some micro-organisms in the putrefying and putrefied bodies. Fuchs in 1818 announced that he had discovered bacteria in animals that had died of septicæmia. Rayer and others in 1850 announced that they had found bacilli in animals that had died of anthrax. The climax of discovery was reached when Davaine in 1863 succeeded in inducing the disease in healthy animals by inoculation with a small quantity of the suspected organism, and thus the foundation was laid of the germ-theory of disease.

But in order that the causal relationship of a certain micro-organism with a certain disease may be established with certainty certain conditions must be fulfilled which, having been first formulated by Koch, are known as Koch's postulates. These are -- (1) That the organism must be demonstrated in the circulation or tissues, fluids or solids, or both, of the diseased animal; (2) the organism so demonstrated, must be capable of artificial cultivation in suitable media outside the body of the animal, and successive generations of *pure cultivation* obtained; (3) such pure cultivation must, when introduced into the body of a healthy and susceptible animal, produce the given disease; (4) the organism must again be found in the circulation or tissues of the inoculated animal.

It is by the application of these tests that pathogenic micro-organisms are being distinguished from non-pathogenic ones, and the specific micro-organisms or germs of infectious diseases are being discovered. It requires considerable practical acquaintance with bacteriology to recognize the difficulty of applying these tests. There are so many fallacies which may attend these investi-

gations, that it is absolutely necessary to exercise the greatest caution in order to avoid them, and to raise the probability into the certainty of a particular organism being the cause of a particular disease.

It must not be forgotten that bacteriology, though it has made rapid strides in the course of the last few, scarcely over twenty, years, is still an infant science in which credulity, born of anxiety and ambition to be the author of new and original discoveries, may overpower the sober scientific spirit and the critical faculty, and thus land not only the young enthusiast but even tried veterans into mistakes which may prove disastrous to whole communities who may implicitly rely upon their fancied discoveries. We would cite as a most noteworthy instance the so-called positive discovery of the true micro-organism of cholera, the comma-bacillus, by Dr. Robert Koch of Berlin. "Had the diagnosis of cholera in Hamburg last summer not been delayed until 85 cases and 36 deaths had occurred because of the belief that the disease must be accompanied by Koch's comma-bacillus," writes Dr. Cunningham in his masterly paper on *The Results of continued Study of various Forms of Comma-bacilli occurring in Calcutta*, "the epidemic might never have attained the appalling magnitude which it ultimately did, and had the medical profession in Berlin not been possessed by a blind faith in the theory, we might have been spared the curious spectacle which they furnished by their refusal to admit that any cases of the disease, however otherwise indistinguishable in symptoms and mortality they might be, were of a truly choleraic nature, unless they conformed to Koch's dicta."

There are other problems than the discovery of specific germs of specific diseases which bacteriology has yet to solve. It has to do much yet as regards the origin, distribution, and mode of action of these germs. The last is the most important of all the problems which should engage the earnest attention and tax all the skill of the bacteriologist. For upon the answers to the questions, whether these germs prove deleterious by their action as mechanical irritants, or by robbing the organism of their host of some material essential to its nutrition and development, or by elaborating or secreting some toxic products, or by all these processes combined,—upon the answers to these questions will depend the true theory of the etiology of a vast number of diseases and the suggestion of the proper remedial and preventive measures against them.

The fact of immunity which a first attack of some infectious diseases confers upon the animal attacked against a second attack, has raised the question of the possibility of artificial immunization which bacteriologists have taken up with the zeal and earnestness

which its importance demands. We do not think, however, that the question has yet been satisfactorily solved, as regards even vaccination against small-pox; far less as regards anti-rabic and anticholeraic vaccination. Here is another problem, most important from a prophylactic and therapeutic point of view, which bacteriology has to solve, and which can only be satisfactorily solved by long-continued and varied experiments. Here again ambition to make a discovery has led to over-zeal and undue haste which, in the best interests of science and humanity, cannot be too strongly deprecated.

The next problem, which bacteriology has to solve with more definiteness than it has done, is the problem of antiseptics. "The work hitherto done," says Dr. Klein, "has been enormous, but, I fear, of less utility than at first sight appears, for in most of it the point most prominent in the mind of the worker was to ascertain whether the particular antiseptic, mixed with the nourishing medium in a solution of definite strength, has or has not the power of inhibiting the growth of the micro-organisms. This point no doubt is of some interest, and perhaps of great interest, but whether a particular substance is an antiseptic in the proper sense of the word, i.e., whether on exposing the organisms to this substance in a solution of definite strength and for a definite period, the organisms become afterwards incapable from growing or multiplying; or still more, whether or not the substance is a germicide, i.e., capable of altogether annihilating the life of the organisms; these are questions which require special attention, and represent a wide and rich field of inquiry; but, as far as I can see, it has received only in very few instances due attention."

Such is the importance of bacteriological research, and such are the problems that are awaiting solution. While such research is being actively prosecuted in Europe and America, while their municipalities and governments have established and are multiplying bacteriological laboratories in almost every town and medical school, in India nothing up to this moment has been done by either Government or the municipalities, except what Dr. D. D. Cunningham has been doing for sometime past at Calcutta, with the niggardly monthly grant of Rs. 300 for bacteriological and other investigations in his capacity as Special Assistant to the Sanitary Commissioner with the Government of India, and what Mr. Hankin is recently doing at Agra as Chemical Examiner and Bacteriologist to the Government of the North-Western Provinces and Oudh. The Calcutta Municipality has been giving for over two years an annual grant of Rs. 7000 for the Haffkine inoculations, but whether any bacteriological work is being done in connection with this, we cannot say.

One good fruit, which the Indian Medical Congress has borne,

is the awakening of the Government of India to the importance of bacteriological research. But the way in which that Government has proposed to encourage and carry on such research is hardly worthy of an imperial government, and is not one which might have been expected from a government which is so lavish in its expenditure on military expeditions of questionable advantage and which can afford to throw away more than half a crore of rupees annually without the slightest compunction of conscience. In its anxiety to afford greater facilities, than at present exist, for the prosecution of bacteriological studies, the Government has resolved to establish an Imperial Bacteriological Laboratory, not at Calcutta but at Agra, which will be "not of purely local interest but one at which investigations relating to the whole of India may be undertaken." By a masterly exercise of financial skill the advisers of the government have enabled it to achieve the feat of establishing the laboratory which is intended to serve for all India "without incurring additional expenditure!" Our readers will, perhaps, be curious to know how this has been done. The process has been simple enough. The Deputy Commissionership of the Panjab has been knocked on the head, and the small grant to Dr. Cunningham has been proposed to be discontinued! Mr. Hankin will be relieved of Chemical Analyst's work, and will be placed at the head of the Bacteriological Laboratory.

This supersession of a man who is not merely a highly trained expert in bacteriology of long standing but is a physician and a physiologist of the first rank, is on the face of it so preposterous that it is no wonder that it should have evoked the surprise and indignation of the whole medical profession in India. The reason assigned by the Government for the choice is far from satisfactory. "It has been established," its Resolution says, "by the testimony both of Dr. Cunningham, at Calcutta, and of Mr. Hankin, at Agra, that bacteriological investigations can be carried on in the plains of India in the hot weather, *and the latter is of opinion that the dry climate of Agra is better adapted for the work than that of Lower Bengal.* The results already achieved by Mr. Hankin and the energy and enthusiasm with which he has pursued his investigations, combined with the searching and practical character of his enquiries, eminently fit him, in the opinion of the Government of India, for the charge of such a laboratory and for the work of training the officers who may be attached to it." The italics in the above quotation are ours, and the sentence so marked suggests the question whether Dr. Cunningham's opinion was taken as to whether the climate of the plains of Bengal and of Calcutta in particular was ill adapted for bacteriological work. Dr. Cunningham, who has had special training under the most eminent masters of the subject, and who

is carrying on bacteriological work all his life, is not qualified for the post, because he has too much of the sober spirit and caution of the true investigator to permit him to welcome and blindly adopt any innovation that may be advanced by any enthusiast.

The *British Medical Journal*, the organ of Mr. Ernest Hart, has come forward in its issue of the 11th inst., as an advocate of Mr. Hankin in a manner which, to say the least, is unfair to Dr. Cunningham in the extreme. Referring to some article in some Indian newspaper, not mentioned by name, but evidently meaning the *Pioneer*, (which has two articles, instead of one, on the subject, one on the 10th and another on the 28th Nov. last) the writer says "some absurd and highly retrogressive proposals are being put forward on the subject of the proposed development of the bacteriological institute at Agra." He finds fault with "the main object of the article" which is "to recommend the substitution of Dr. Cunningham for Mr. Hankin as the head of the institute in its imperial development," and loses his head so far as to say, "there could not possibly be a proposal more likely to destroy the utility of the institute or to frustrate the main object in view." In support of Mr. Hankin's claims we are told that he had "distinguished himself in Europe by quite remarkable skill and inventiveness in bacteriological research and had a most efficient training and a brilliant career before he was induced to take up the Indian appointment;" that during his short tenure of office he has far more than justified his appointment by singular ability and indefatigable energy, of which "the brilliant results of his investigations of the outbreaks of cholera at Cawnpur and Lucknow, and of his study of the well waters of India as local sources of cholera," are cited as examples. Then we have flourish of certificates from Prof. Michael Foster and Dr. Haffkine in support of what the writer is pleased to call "his pre-eminent claims and fitness for the appointment."

The certificate of M. Haffkine is significant as showing the reasons which actuated the Government or rather its advisers to prefer Mr. Hankin to Dr. Cunningham. M. Haffkine writes as follows: "With regard to the scheme of appointing Mr. Hankin from Agra as Imperial Bacteriologist for India, allow me to recall the following incident: When three years ago I landed in India, a letter from Hankin was awaiting my arrival in Bombay, advising me to come and start my work in Agra. I did not stop in Bombay and missed his letter. In Calcutta, a few days after my arrival, a telegram with several letters from Hankin were handed to me, in which he repeatedly invited me to come to Agra, putting at my disposal all bacteriological accommodations he possessed, and offering to do all in his power to induce the European residents and the natives of Agra to undergo the inoculation. It

is known from my publications that it was, in fact, in Agra that the first inoculations against cholera were done in India, and that subsequently they were extended over the North-West Provinces and Oudh, the Punjab, etc. This is an instance to show how keen Mr. Hankin is in regard to everything new which may find application in the country he is serving, and the decision of the Government will be greeted as that most appropriate to the needs of India."

It is well known that Dr. Cunningham was compelled by his own researches to believe "that the comm-bacilli which occur in the intestinal tract in cases of cholera are not essentially concerned in the manufacture of the poison which induces the primary choleraic condition, so that there are no scientific grounds for regarding the procedure (Haffkine's inoculation) as calculated, in any way to affect the prevalence of the latter," though with characteristic candour he has admitted the possibility of its affecting the mortality from the disease. M. Haffkine, however, is so possessed with the efficacy of his inoculations that it would be superhuman in him to brook any difference with his views. He is, therefore, not to blame if he hails with satisfaction the appointment as imperial bacteriologist of one from whom he had received and from whom he expects to receive much aid in furtherance of those views.

We are quite willing to admit that what the writer in the *British Medical Journal* has said in favor of Mr. Hankin is fully deserved. But how could he ignore or overlook the superior and more pre-eminent claims of Dr. Cunningham, we cannot understand, unless it be that he is totally ignorant of the solid scientific work he has already done. For the information of those who are, like the writer, unacquainted with Dr. Cunningham's researches we give below a list of his publications from which it will be seen that he has been incessantly at work since 1871 with some of the deepest problems which can engage the attention of the practical physician and the sanitarian.

The following publications, embodying joint researches with the late Dr. T. R. Lewes, appeared as appendices to the Annual Reports of the Sanitary Commissioner with the Government of India :

1. 1872. A Report of Microscopical and Physiological Researches into the nature of the Agent, or Agents, producing Cholera.
2. 1874. Do. Second Series.
3. 1875. The Soil in its relation to Disease.
4. 1875. The Fungus Disease of India.
5. 1876. The Oriental Sore as observed in India.
6. 1877. Leprosy in India.
7. 1878. Cholera in its relation to certain Physical Phenomena.

Of the following independent publications Nos. 1-5 appeared as appendices to the Annual Sanitary Reports, Nos. 6-20

appeared in the Scientific Memoirs by the Medical Officers of the Army of India, Nos. 21 and 22 came out in the Transactions of the Linnæan Society of London, and No. 23 in the Annals of the Botanical Garden of Calcutta.

1. 1871. Report on Cholera in Southern India.
2. 1873. Microscopic Examinations of Air.
3. 1875. Microscopical notes regarding the Fungi present in Opium-blight.
- 4. 1879. On certain effects of Starvation on Animal and Vegetable tissues.
5. 1880. On the Development of certain Microscopic Organisms occurring in the Intestinal Canal.
6. 1884. On the relation of Cholera to Schizomycete Organisms.
7. „ On the presence of peculiar Parasitic organisms in the tissue of a specimen of Delhi-Boil.
8. 1886. On the effects sometimes following injection of Choleraic Comma-bacilli into the subcutaneous tissues of guinea-pigs.
9. „ On the Phenomena of gaseous evolution from the flowers of *Ottelia alismoides*.
10. „ Notes from the Biological Laboratory attached to the Office of the Sanitary Commissioner with the Government of India.
11. 1887. Note regarding the subsoil of Calcutta.
12. „ On a new Genus of the Family Ustilaginæ.
13. „ On an Entophytic Alga occurring in the leaves of *Linnanthemum Indicum*.
14. „ On the Phenomena of Propagation of Movements in *Mimosa pudica*.
15. „ Do Comma-Bacilli, even assuming that they are the immediate cause of choleraic symptoms, really determine the epidemic diffusion of cholera?
16. 1889. On *Ravenelia sessilis* and *R. stricta*.
17. 1890. On Milk as a medium for Choleraic Comma-Bacilli.
18. 1891. On some species of Choleraic Comma-Bacilli occurring in Calcutta.
19. 1894. The results of continued study of various forms of Comma-Bacilli occurring in Calcutta.
20. „ The Physiological action of Snake-venom.
21. 1880. On the occurrence of conidial fructification in *Choanephora*.
22. „ On a new genus of Parasitic Algae.
23. 1889. On the phenomena of Fertilization in *Ficus Roxburghii*.

Here we have a veteran who has done an amount of physiological, pathological, and bacteriological work which has given him a European reputation and obtained for him the approbation of the highest scientific society in the world, the Royal Society of London, and quite recently the Stewart prize, the award of the British Medical Association itself; and yet we have the strange spectacle of the Government of India ignoring his claims in favor of one comparatively much his junior. We trust the Government will yet see fit to modify its Resolution of the 31st October last, and establish the Imperial Laboratory at Calcutta under the superintendence of Dr. Cunningham, the only man in India worthy to fill the post. As one laboratory cannot possibly meet the requirements of all India, separate laboratories should be established at least at Agra, Bombay, and Madras.

PROVING OF ACALYPHA INDICA.

As our readers will remember Babu Joy Kissen Ghosal had to stop taking the drug from after the 27th September last owing to an attack of malarious fever which he had contracted in a village adjoining his own. He resumed the proving on the 20th December last and continued taking the drug till the 24th after which he was again obliged to discontinue it owing to its violent action on the digestive system in particular. He resumed the proving again on the 2nd January and continued it till the 5th inst., but as the gastric and intestinal symptoms reappeared in their full force and there was no development of any new symptoms, he has, we think, done well in discontinuing the proving altogether.

As during his proving in September last, the symptoms of the digestive apparatus predominated during his second proving in December. The symptoms of the respiratory apparatus were limited to accumulation of darkish mucus in the throat, and occasional oppression in the chest and cough accompanied by pain in the sternum. The gastric and intestinal symptoms were so violent, the diarrhœa was so troublesome and exhausting, that he was obliged to discontinue the proving for about a week, but on resuming it the same symptoms recurred with the same violence so as to compel him to stop the proving again.

During this second proving, some symptoms were more marked than in the first proving, and some new symptoms were experienced. Amongst the former were pains in the teeth which were aggravated by contact with cold water, and induced the prover to grind them or press the upper against the lower, which seemed to afford some relief. Amongst the new symptoms were those of the skin and of the eye.

The skin symptoms were itching of different parts of the body inducing scratching, followed by circumscribed flea-bite-like (urticarial) eruptions. The itching and the eruptions were increased by exposure to cold drafts of air and by cold bath. The itching and the eruptions were very similar to those experienced by Babu Gopal Chadra Datta, and which in his case were so violent as to compel him to discontinue the proving.

Another new symptom observed was a flash or spark of light darting from the outer corner of the left eye, probably indicating some irritation of the retina.

The proving of the drug was undertaken with a view to ascertain if it would develop hæmorrhage from the lungs and under what conditions, so that its use as a homœopathic remedy in hæmoptysis, which has hitherto been based upon a solitary symptom noticed by the late Dr. Tonnere, and therefore little better than empirical, may be determined with precision and

recommended with confidence. This object has not been, and, so far as we can judge, cannot be, attained by any further proving by the same provers. We must have other provers whose lungs are more, and digestive organs less, susceptible to the action of the drug. That the drug has a hæmorrhagic action not only on the lungs but on other organs, at least on the uterus, is shown by the clinical experience of our school in hæmoptysis and also in uterine hæmorrhage. In a recent number of our Journal while treating of "Provings and how to conduct them," we expressed our disapprobation of Lilienthal's recommendation of *Acalypha* in the latter affection. But the two cases of this disease cured by it, with which Dr. Marc Jousset has prefaced his excellent translation, in the October number of *L'Art Medical*, of our article on *Acalypha* in the July number of this journal, show that the industrious Lilienthal's recommendation was not altogether groundless. The drug is evidently one which has varied and important pharmacodynamic properties, and deserves a thorough and exhaustive proving in both sexes.

PROVING BY BABU JOYKISSEN GHOSAL.

(Continued.)

Dec. 20, 1895. Resumed proving, having recovered to a great extent from the ill effects of malaria and being now, as I believe, in my usual good health.

9-10 A.M. Took ten drops of the mother tincture in an ounce of water in the presence of Dr. Sircar. On my way to my lodgings felt a little nausea, the disagreeable smell of the tincture of *Acalypha* was called up. Had my usual cold bath and breakfast between 10 and 10-30 A.M. Was aware of no symptoms till 1 P.M., when a tickling sensation in the pharynx troubled me off and on till 2-30 P.M.

4 P.M. Felt a slight heart-burn and a little heaviness in the lower bowels.

6-30 P.M. Took another dose of 10 drops; no symptoms save passing of wind 2 or 3 times after micturition at 9 P.M. Sleep at night disturbed by a dream about hiding myself and fleeing from place to place from the pursuit of a wolf.

Dec. 21. On awaking at 6 A.M. expelled noisy flatus along with urine. Passed water a second time at 7-30 and sometime had a scanty stool expelled with spluttering noise.

8 A.M. Took a dose of 15 drops. Slight heaviness of the bowels with eructations and occasional passing of offensive flatus troubled me till my cold bath and breakfast at 10 A.M.

10-15 P.M. Sour eructations and heart-burn appeared and lasted for more than 3 hours.

4 P.M. Began to pass noiseless offensive flatus every 5 or 6 minutes when a desire for stool followed: the stool was insufficient, diarrhœaic, attended and followed by spluttering noise.

6 P.M. Took another dose of 15 drops. Half an hour after began to have nausea and a renewal of the smell of the tincture.

7-30. P.M. Took my night's meal with diminished appetite. While washing my hands and mouth after the meal I perceived a small flash or spark of bright light emanating from the outer corner of the external margin of the left orbit. This symptom appeared thrice during the time I was awake till 10 P.M.

9-30. P.M. Abdomen seemed heavy and loaded with gas and eructations and yawnings intervened. At 10 P.M., i.e., just before going to bed, and after passing urine, flatus in frequent succession was passed accompanied by involuntary passage of very small quantities of thin liquid stool of yellow color and nasty smell. Sleep much disturbed by dreams of repeatedly failing in examinations and in attempts at addressing large gatherings.

Awoke at 2 A.M. and found that my bed clothes and pillows were all wet with perspiration from my body and head. Having wiped my body, I sat up in bed for about half an hour during which I had thirst, rancid or fetid eructations (ঢোঁয়া ঢেঁকুর), rumbling in the abdomen and passing of offensive flatus. Drank water to allay thirst and soon after passed a quantity of high colored urine causing slight burning sensation in its passage through the urethra. Went to bed again at 3 A.M. and was troubled with a dream about being in a ferry boat in a large river and being helplessly tossed about by the waves in stormy weather.

Dec. 22. On waking up at 7 A.M. had heaviness of the head and eyes, aching of the molars temporarily relieved by pressing the upper ones against the lower, inclination to sit quiet or lie down, oppressive headache seated around the eye-brows preventing me from fully opening the eyes, rumbling and griping in the abdomen and eructations.

8 A.M. Passed stool, had to sit at it for an unusually long time as it came out in parts in soft semiliquid lumps at intervals of 3 or 4 minutes, each evacuation being ushered in by intestinal griping and bearing down feeling. The quantity passed was large and caused much relief of almost all the symptoms observed on rising from bed.

8-43 A.M. Took a dose of 20 drops; shortly after nausea and eructations with dryness of the throat and tongue.

9-30 A.M. Passed another stool of light brown color and semi-liquid consistency; rumbling and griping of the bowels were also present though in a less degree. After my bath at 10 A.M., mucus began to accumulate in the throat as soon as expectorated.

Just at this time while taking my usual breakfast noticed more than once a spark of light darting from the outer corner of the left eye like the one observed yesterday. This was seen five or six times during the remaining hours of the day and in the earlier

part of the night when I was awake. During the day it was brilliant like an electric spark and at night resembled a firefly.

1 P.M. Eructations and heart-burn for more than an hour. Stomach remained full, eructations affording no relief, the occasional passing of wind, however, eased me somewhat.

2. P.M. Noiseless flatus more and more frequent and a desire for stool ushered in by a rumbling in the bowels followed; stool small, soft or semi-liquid, attended with spluttering noise, bearing down pains and tenesmus; last portion of it contained a little mucus.

4. P.M. Heart-burn with flow of water in the mouth: accumulation of mucus in throat, with disposition to hawk and cough.

4-40 to 6 P.M. Dryness and a sensation of burning in the throat and palate; frequent fits of sneezing with running of the nose and eyes. During one of the fits of sneezing a number of very small shining sparks like fire-flies seemed to flicker before me for about two minutes.

6-45 P.M. Toothache inducing grinding of the molars.

8. P.M. Took my nightly meal with rather a dull appetite and retired soon after to bed. Sleep not markedly disturbed by dreams but I was awakened at 1 A.M. by a fit of cough, and found that I had perspired as well, had fetid eructations (চোঁয়া টেকুর) three or four in a quarter of an hour. Took a little water and went to bed again; dreamed of seeing a large serpent in a pool of water.

Dec. 23. On getting up in the morning felt drowsy, heavy, with unpleasant weariness of the limbs; cough and toothache continued; discharge of thick mucus from the nose and a dull frontal headache.

7 A.M. An insufficient diarrhoeic stool which eased me somewhat.

8 A.M. Took a dose of 20 drops which caused nausea and eructations with dryness of the throat and tongue.

9 A.M. A feeling of exhaustion and disinclination to work, and a dull headache especially in the frontal region lasting for more than an hour.

10 A.M. Bathed and took my usual breakfast with diminished appetite or rather with a feeling of indifference for food.

11 A.M. to 3 P.M. Cough and slight heartburn. 3 P.M. Distention of abdomen with gas with passing of flatus.

3-40 P.M. Griping in the abdomen about the navel accompanied by nausea; cough also now and then. 5 P.M. Took another dose of 20 drops which brought on soon after a strong sensation of nausea with eructations.

5-20 P.M. Began to pass offensive flatus frequently, when a desire for stool followed. Stool was soft, brownish, containing

mucus and attended by spluttering noise, a slight burning and bearing down sensation in the anus.

6 P.M. Troubled with an aching of the right molars of the lower jaw aggravated by contact with water.

8-30 P.M. Took my usual meal, which over, passed noisy flatus several times and a call of nature followed; the stool was semiliquid but insufficient and caused pain in the rectum and anus.

Went to bed at 10 P.M.; had a disquieting dream of being robbed and beaten by a number of highway men in a lonely field.

Dec. 24. On waking up in the morning found that I had perspired profusely especially in the head. Felt very languid with a sensation of heaviness in the head especially in the frontal region; aching of the molars of both the jaws with a slight swelling of the gums; oppression in the chest and pain in the sternum at the time of coughing and during forced respiration; thirst with dryness of the lips and throat, had to moisten them with the tongue repeatedly.

7 A.M. Took some water to allay thirst which induced micturition soon after, and flatus was passed along with urine. Then eructations and passing of wind went on; the latter became more and more frequent and a desire for stool followed; stool of the same character as yesterday.

8 A.M. Took 30 drops of the tincture. 8-30 A.M. Nausea and eructations followed which, however, were relieved to a certain extent by my cold bath an hour after. 10 A.M. Diminished appetite or indifference for food at the time of meal. 11 A.M. Stomach and abdomen seemed heavy and full of gas.

1 P.M. Heart-burn and eructations; could not sit quiet; slept for about an hour. 2-10 P.M. Got up from sleep which was not at all refreshing; noticed a collection of mucus in the throat and left nostril, toothache and pain in the supra-orbital region; abdomen became distended with gas and there was much rumbling in the intestines near the descending colon; sigmoid flexure tympanitic and there was fermenting noise about the region.

4 P.M. Fits of sneezing came on and the nose and eyes began to run; the head became heavy and dull. Passed scanty and high-colored urine, when a slight burning in the urethra was felt.

5 P.M. Took another dose of 30 drops which at once induced nausea and an inclination to vomit; a slight burning along the œsophagus was also felt some time after.

5-30 P.M. Took a walk but soon became tired owing to a heaviness of the feet and weariness of the limbs which became very pronounced. A dull oppressive headache forced me to lie down and remain quiet for more than an hour. Toothache induced grinding of the molars. Felt very little or no appetite at dinner. 9-30 P.M. Went to bed; sleep disturbed by dreaming as if

lying helplessly on a roadside and there being pierced in the left eye and teeth by the bayonet of a cruel soldier.

Dec. 25. Woke as early as five in the morning when an urgent desire for stool followed. The stool was diarrhœaic and attended with and followed by spluttering noise. Notwithstanding this, the abdomen remained full and loaded with gas; began to pass noisy offensive flatus a number of times when another stool of semi-liquid consistency was passed at 6-30 A.M.

7 A.M. Eructations and thirst; took some water.

7-30 A.M. Passed urine once and wind several times; rumbling in the abdomen and griping of the intestines were felt with bearing down pains in the lower bowels.

7-50 A.M. Had a third evacuation of almost watery consistency with the sensation of a warm liquid squirting out from the anus; the stool was also frothy and mucous, especially its last portion.

I was afraid to push the medicine further and it was consequently discontinued for a few days to enable me to regain my normal health. The following symptoms show that the action persisted for some days, though getting gradually less.

8-30 A.M. Eructations, nausea and thirst; a few flakes of orange at once removed the nausea and relieved the other troubles also.

9 A.M. Griping and cutting pain in the lower bowels; urging to stool a fourth time, the stool passed was scanty, watery and mucous; tenesmus and bearing down pains were also felt at the time of evacuation, and the last portion was entirely mucous, frothy, and of a greenish color.

9-30 A.M. Felt thirsty and took some sugar water. Itching of the forehead and right shoulder followed by circumscribed flea-bite like eruptions on scratching the parts.

10 A.M. Went to bathe in the river (the Hughli) which flows down our village, and itching of different parts of the body considerably increased on their being exposed to the cold north wind which was blowing hard that day. The itching continued after the bath and induced scratching, and my forehead, arms, chest, back, intercostal regions, nates and thighs were all covered with flea-bite like eruptions such as are produced by contact with nettle-rash; the extremities only were free from such eruptions.

10-45 A.M. Took my usual morning meal with a disinclination for food. 11-30 A.M. Felt peevish and irritable; had eructations and thirst; took some cocoanut milk (ডাবের জল) instead of plain water which induced a copious discharge of urine a quarter of an hour after.

0-30. P.M. Passed water a second time with flatus; itching became less and gradual subsidence of the eruptions followed.

1-30 P.M. Fell asleep for more than an hour. On awaking

hawked up a quantity of mucus which had collected in the throat.

5 P.M. Took an evening walk of more than four miles during which I sneezed and passed noisy flatus several times.

9 P.M. Had my usual meal and a good night's rest followed. Sleep was not markedly disturbed by dreams.

Dec. 26. On getting up in the morning felt an aching of the right molars and canine of the upper jaw with a dull pain in the right eyebrow and around the eyes.

7 A.M. Had a soft scanty stool with emission of flatus; a little blood came out from the gums around the right canine tooth of the upper jaw at the time of brushing the teeth; expectoration of thick mucus from the throat of greyish or ash color.

9 A.M. Itching of the body felt on exposure to cold wind at the time of bathing in the river; the more a part was exposed the greater was the sensation of itching and the scratching consequent thereon. The scratching brought on eruptions which continued or rather increased after my cold bath but were much less than those of yesterday.

11 A.M. Heaviness and distension of the bowels after my usual meal, greatly relieved by taking a drink of cocoanut milk.

3 to 5 P.M. Passed water twice and noisy flatus a number of times; had soft stool with spluttering noise.

Sleep at night was slightly disturbed by dreams rather lascivious in character, and a nocturnal emission occurred.

Dec. 27. 6-30 A.M. Burning in the throat and soft palate with expectoration of tough blackish frothy mucus; had insufficient stool followed by passing of noisy offensive flatus; nasal catarrh and lachrymation. Did not bathe this morning but took my usual morning meal. 1 P.M. Heartburn and eructations. 4-30 P.M. Slight headache and discharge of thick yellow mucus from the nose. Had a good night's rest.

28th to 31st Dec. Nothing particular excepting discharge of thick mucus from the nose and expectoration of blackish or or lead-colored sputa from the throat in the morning and occasional heart-burn and eructations towards midday and emission of noisy flatus now and then. Sleep also was not markedly disturbed.

Resumed proving on the 2nd January and continued taking the drug till the 5th. The gastric and intestinal symptoms, which were disappearing, reappeared in full force. But there was no development of any new symptoms, that is, symptoms other than those which were previously observed.

EDITOR'S NOTES:

Homœopathy in China.

Dr. Robert Swallow, a graduate of the Hahnemann Hospital College, San Francisco, and who for many years has carried on missionary work, at Ningpo, China, writes to the *Pacific Coast Journal of Homœopathy*, Dec. 1895, to say that the hospital which he established there a few years ago, has been full to overflowing during the past summer, so much so that he has been obliged to refuse admittance to many patients. In connection with the hospital, he has recently started a Homœopathic College, in which he wishes to teach the intelligent Chinese the law of Homœopathy. We wish all success to both the institutions.

The twelfth International Medical Congress.

The Russian correspondent of the *Lancet*, of 14th Dec., has learnt from Prof. Erisman, the General Secretary, that the next International Medical Congress will meet at Moscow in the week ending 26th August 1897. The exact date will be announced hereafter. The nominal president will probably be the Minister of Public Instruction, and the working president will almost certainly be Professor Klein, the Dean of the Faculty of Medicine in the University of Moscow. Papers and discussions must be in either the French or German language. Russian has been excluded lest the Congress should become national rather than international, and English on the ground that it is a language little used or understood by other than Englishmen.

Iodoform in Meningitis.

Dr. Edwin J. Pratt, chairman of the committee on materia medica and therapeutics, announced a paper by Dr. Wm. S. Miner on "Iodoform in Tubercular Meningitis." In addition to a case he had reported in the *New York Medical Times* for September, 1887, the author related two cases in his more recent experience. One of traumatic meningitis with hemorrhage from the ear, serous discharge, intolerance of light, etc., recovered under the administration of Iodoform 6x. The other case, in a girl of six years, diagnosed by several physicians of repute as tubercular meningitis, and given up as hopeless by them, recovered after injunction of Iodoform. A preparation of Iodoform; ʒ j in Vaseline ʒ j, was used. Triturations of Iodine in the 3x and 6x strength had been previously given but failed to benefit.

Dr. Joseph T. O'Connor related that meningeal symptoms had been observed in cases of poisoning by Iodoform as applied in gynecology. He had used the 2x and 3x triturations with such marked results that he was led to look upon it as almost a specific for any form of meningitis. He also thought it would prove of value in peritonitis and pleuritis. Dr. O'Connor also cited a case of tumor of the brain for a long time much relieved by Iodine 6x.—*Med. Century*, Dec. 1, 1895.

Nail in the Brain.

An extraordinary case of brain toleration was shown in one of the specimens presented by Dr. Stewart. The patient, a man aged 41, was admitted to the Metropolitan Hospital in June, suffering from croupous pneumonia. Though seriously ill, a good and seemingly complete history of the case was secured. Death occurred on the fourth day, and an autopsy showed consolidation of the entire right lung. Owing to the existence of considerable delirium just prior to death it was thought advisable to examine the brain. The amazement was unbounded upon finding an iron nail penetrating the skull and brain. The nail, three-fourths of an inch long, pierced the bone one inch in front of the fissure of Rolando and penetrated the gray matter. The pia mater and grey matter were stained with rust. The nail appeared to have been broken off on the level of the external surface of the calvarium with the periosteum grown over it and was firmly fixed in the bone. No scar could be found on the scalp, and no history of injury to the head or of pain or paralysis such as might be caused by the presence of the nail has been secured in a seemingly complete hospital history.—*Medical Century*, Dec. 1, 1895.

Congenital Sacral Tumour impeding Labour.

Heinrich (*Centralbl. f. Gynäk.*, No. 46, 1895) attended a woman who had borne one child, the labour being complicated by rupture of the perineum. On this occasion the fetus lay in the first position; the pelvis seemed normal. The mother had albuminuria and oedema of the feet. When labour came on it proved lingering without evident cause, the pains being strong. The forceps was applied and the head delivered, two incisions being previously made in the vagina with the view of preserving the perineum, already in danger. The body followed the head and projected from the vulva as far as the lower angle of the scapulae, but could not be drawn out any further. The child breathed well and cried out loudly. On exploration the cord and the foetal abdomen were found normal, as well as the external parts. A tense fluctuating tumour could be felt in the sacral region. It was as big as a man's head. Heinrich made the midwife draw down the head of the child, and then took a Nägele's perforator in his right hand, guiding the point up to the tumour by aid of the left forefinger. With a smart thrust the tumour was perforated and a quantity of serous fluid escaped. As the perforator was being retracted the rest of the child with the tumor was delivered. The perineum completely torn, was sewn up at once. The child died in half an hour. It was a well-developed male; the tumour was clearly a teratoma and contained a square piece of bone and numerous small cysts. There was no spina bifida.—*Brit. Med. Jour.*, Dec. 7, 1895.

Cæsarean Section after Death.

Hoffmann (*Centralbl. f. Gynäk.*, No. 50, 1895) was called in consultation last summer about a moribund patient, aged 36, in the eighth

month of her fourth pregnancy. She had previously been in good health. Over an hour before Hoffmann attended her sudden and violent eclampsia occurred, and deep coma followed. Morphine injections, inhalations of chloroform, and ice bags to the head were tried. Hoffmann found the coma complete; an hour after his arrival the breathing ceased and the pulse rapidly disappeared; artificial respiration proved useless. Ten minutes after the last respiration Cæsarean section was undertaken. The incision into the uterus passed through placenta along its whole length. The uterine cavity was then laid open above the placental insertion, close to the fundus, and the fœtus delivered. It was a male, nearly 15 inches long. For a few minutes it did not breathe, then respiration set in spontaneously, and it cried out. The child was fed with a spoon but could only swallow a very little milk. It died when 25 hours old. Hoffmann agrees with von Winckel that it is a duty to do Cæsarean section under the above circumstances. Of 32 children thus delivered after the mother's death 11 lived over a fortnight. Considering that they must already have shown great resisting power and that after all they were saved, when without operation all the 32 would have been sacrificed, Hoffmann holds that similar attempts to save the fœtus in future will be more than justifiable.—*Brit. Med. Jour.*, Jan. 11, 1896.

Acroparæsthesia.

Gilbert Ballet (*Sem. Méd.*, November 6th, 1895) describes a disease already noticed by several observers, and which Frantz Schultze proposes to call acroparæsthesia. The etiology of the disease is obscure; it is oftenest seen in middle-aged women. The symptoms are numbness and a feeling of swelling or tightness which begins in the fingers (usually in the region supplied by the median nerve), and spreads to the forearm. The feet and legs are also attacked, and later the tongue and lips. The symptoms come on on lying down at night or during the first sleep, or else on waking in the morning. They occasionally persist through the day, causing the subject of them to become weak and clumsy, so that continuous work becomes difficult or impossible. The disease cannot be confounded with Raynaud's local asphyxia nor with the erythromelalgia of Weir Mitchell, for there is no circulatory or vasomotor disturbance and no modification of temperature or colour in the affected part. Though rheumatic pains occur in some cases, there is no deforming arthritis nor reason to class it with chronic rheumatism. Sensibility of skin is slightly if at all affected; there may be hyperæsthesia or the reverse. Slight hypochondriasis or melancholia has been observed, probably in conjunction with loss of sleep or of habitual occupation. The affection cannot be classed with any known disease of the nervous system. It differs profoundly from the ordinary peripheral neuritis. There are no active pains, muscular atrophy, or paralysis. The affection lasts for years and gets well spontaneously. Drugs affect it very little; phosphorus, bromides, ergotin, quinine, phenacetin, antipyrin have been tried, and also sulphur douches and local injections with a preparation of tannin, all without any definite good effect.—*Brit. Med. Jour.*, Dec. 7, 1895.

Influenza.

De Renzi (*La Clinica Moderna*, December, 1895) says it is now possible to say that there can be no infection without Pfeiffer's bacillus. According to Pfeiffer, this micro-organism is only present in the bronchial secretion. It may be found in the sputum even after it has undergone some degree of desiccation, but the moist secretion is the chief medium of transmission. The influenza bacillus has also been found in the lungs in influenzal pneumonia; but it is possible to have a secondary infection there, as by the streptococcus or diplococcus. Influenza may be divided into the nervous and catarrhal forms, but these forms may be combined. Unlike other acute diseases, a disproportion may exist between the temperature and the pulse, the former being high while the latter is infrequent. The most common nervous symptoms are intense headache, often having the character of hemi-crania. It is especially situated in the forehead, in and behind the orbit, and in the temple. It is occasionally as severe as in meningitis. Pains may be present in other parts as in the course of the nerves, in the joints and muscles; they are aggravated by movement. The pain referred to the nucha is, in the author's opinion, so frequent as to be almost characteristic. At times the most grave nervous symptoms may be present simulating meningitis. Sometimes influenza produces a true meningitis or an encephalitis. Prostration is most constant. Occasionally mental affections appear during convalescence; they are usually of short duration, and end in recovery. Neuritis is sometimes seen. Some neuroses—as hysteria, neurasthenia, epilepsy, chorea—have followed influenza. Various catarrhs may occur in influenza. In influenzal bronchopneumonia the prostration with rapidity of breathing is characteristic; there is but little alteration in percussion. The sputum may be blood-stained. Hæmorrhages from mucous surfaces are occasionally seen. Gastro-intestinal symptoms occur. The attack of influenza is mostly short. The author advises against the use of antipyrin in influenza. He speaks highly of the use of salipyrin and of quinine. If pneumonia supervenes, considerable quantities of alcohol may be required.—*Brit. Med. Jour.*, Jan. 11.

Antagonism between Morphine and Cocaine.

Joseph William Stickler, M.D. (*Medical Record*, September 28th, 1895).—The attention of the author was first drawn to the antidotal effect of opium in cases of cocaine intoxication by a patient, who, after having taken two ounces of a four per cent. solution of cocaine in about two hours, took about half an ounce of laudanum, and in the course of an hour was relieved from the sleeplessness and nervousness which had followed the cocaine. On the strength of this, the author made experiments with regard to the antidotal effect on forty pigeons, two dogs, and four men.

With regard to the pigeons, taking into account all the birds treated, the author finds that those having first morphine and then a lethal dose of cocaine had an average life of forty-four minutes eight seconds. Those having first atropine and then a lethal dose of cocaine lived on the average one minute forty-two seconds. Those having only a lethal

dose of cocaine lived on the average one minute two seconds. This comparison shows that in pigeons morphine and cocaine are antagonistic, and that atropine furnishes little or no protection against cocaine. With dogs the results seemed to show that while two grains of morphine do not successfully antagonise one grain of cocaine, four grains of morphine will serve as an antidote for four grains of cocaine. Dr. Stickler then gives the antagonism which appears between the symptoms produced by the two drugs in human beings, and mentions the importance of the rapid diffusibility of cocaine which, when given hypodermically, has produced a constitutional effect in fifteen seconds. The paper is concluded by an account of the practical use of this antidote in the case of a patient who had taken about two and a half ounces of laudanum. After an emetic had been given, the results of which gave neither the colour nor the smell of laudanum, half a grain of cocaine was given hypodermically, and in about an hour another quarter of a grain. In an hour from this time she became normal with the pupils well dilated. In conclusion, the author's advice in cases of opium poisoning is first to give an emetic and then a quarter to half a grain of cocaine hypodermically. If no decided effect is obtained in twenty minutes, a quarter grain should be given, and this, if necessary, be repeated at the end of another twenty minutes. The author thinks that three separate doses of one quarter grain each is the best to follow, on account of the rapid diffusibility of the drug and its sustained effect. During this time coffee should be administered by mouth or rectum as a supplementary heart stimulant, and in extreme cases artificial respiration must be employed.—*The Practitioner*, Nov. 1895.

Should Milk be taken Raw or Boiled ?

Dr. J. L. Kerr, late examiner in Chemistry and in Medical Jurisprudence, University of Aberdeen, and Public Analyst, Rawtenstall Borough, has answered this question in favor of unboiled fresh milk. He has been led to this conclusion by a consideration of the chemical and physiological changes in milk caused by boiling," of which he has given a summary in the *British Medical Journal* of the 14th Dec. 1895, and which we give below. One of the reasons given, namely, "that when fresh milk is ingested, the living cells are at once absorbed without any process of digestion, and enter the blood stream and are utilized in building up the tissues," does not appear to us to be satisfactory. For it is questionable, if the living cells of the milk retain their vitality when the milk is curdled by the gastric juice. A good many of these cells are entangled by the casein which is a product of the curdling process, and therefore cannot be absorbed direct. As for the rest, can they live in the acid of the gastric secretion? Nevertheless, it is a fact that boiled milk is harder of digestion than fresh milk. But if fresh milk is to be drunk, it must be drunk immediately after it is drawn from the mammary gland, for otherwise it will become infested with micro-organisms, some of which may be pathogenic of the most deadly character. Indeed, it is in this way that milk so often becomes the fertile medium of infection.

"Milk consists of a multitude of cells suspended in serum. The cells are fat cells which form the cream; the remaining cells are nucleated and of the nature of white blood corpuscles. The serum consists of water, in which is dissolved milk sugar, and serum albumin, with various salts, and chief of all casein. The cells, with the exception of the fat corpuscles, are all living cells, and they retain their vitality for a considerable time after the milk is drawn from the mammary gland.

Milk kept a few days may be perfectly sweet—that is, unsoured, but it has a different taste and appearance, and shows a tendency to separate into serum and the more solid portions, which tend to sink to the bottom of the vessel. This change in taste and emulsification is due to the death of the white blood corpuscle-like bodies contained in the milk.

There is reason for supposing that when fresh milk is ingested the living cells are at once absorbed without any process of digestion, and enter the blood stream and are utilised in building up the tissues. The casein of the milk is digested in the usual way of other albuminoids by the gastric juice, and absorbed as peptone. There is also absorption of serum albumin by osmosis.

The chemical result of boiling milk is to kill all the living cells, and to coagulate all the albuminoid constituents. Milk after boiling is thicker than it was before.

The physiological results are that all the constituents of the milk must be digested before it can be absorbed into the system: therefore there is a distinct loss of utility in the milk, because the living cells of fresh milk do not enter into the circulation direct as living protoplasm, and build up the tissues direct, as they would do in fresh unboiled milk.

In practice it will have been noticed by most medical practitioners that there is a very distinctly appreciable lowered vitality in infants which are fed on boiled milk. The process of absorption is more delayed, and the quantity of milk required is distinctly larger for the same amount of growth and nourishment of the child than is the case when fresh milk is used."—*Brit. Med. Jour.*, Dec. 14, 1895.

Growing maternal depravity in England.

The following paragraphs from the *Lancet* and the *British Medical Journal* reveal a state of things in the most civilized country of the world which is only equalled by the depravity that prevails in India, we yet hope, out of Bengal, and which, to this day and at this very hour, notwithstanding the vigilance of the British Government, is causing *Hindu* parents to commit the most inhuman of murders, the murder of their own female offspring, simply to avoid exorbitant marriage expenses! Bengal is yet uncontaminated by the crime, but the marriage expenses for daughters, thanks to the university-stamps on bridegrooms' heads, are getting ominously greater and greater every day. Fathers of sons have only to be considerate, and an impending evil of portentous magnitude will be averted.

THE MURDER-WOMAN.—At Warwick Assizes, upon December 10th, Sarah Ann Eden, a midwife, was condemned to death for the murder of a woman at Aston, upon whom she procured abortion

and who died in consequence. This was no case of an unmarried ignorant girl in her first pregnancy trying to conceal her shame. For such criminals, wrong as they are, we may have pity, but in the present instance the woman was married and had six children. She first tried, with that indifference to this form of crime which so many women exhibit, to get her medical attendant to perform the operation, and when he refused she went to the prison. The crime of procuring abortion is far too common, and it cannot be too strongly impressed upon women that she who knowingly gets rid of her unborn child in this way is morally as much a murderess as the operator, and sins of this nature are not confined to the lower orders but are only too frequent in the upper strata of society.—*The Lancet*, Dec. 14, 1895.

IMMORAL ADVERTISEMENTS.—We have frequently protested against the indecent advertisements with which so many managers of newspapers, no doubt greatly to the grief of their editors, persist in disfiguring their pages. Nothing, however, seems to have any effect in checking the flood of obscenity which fathers of families, in strange contradiction to all their professions, allow to be left about in their homes. For years we have been accustomed to the advertisements of "female pills" and other remedies, which are guaranteed to remove "obstructions" and to have the "desired effect" without pain or danger. Most of these are mere swindles, for, although some of them undoubtedly contain injurious and poisonous substances, the majority contain nothing more than a little aperient. They are, however, none the less direct incitements to crime, and it cannot be doubted that the women who buy them do so with the direct intention of producing abortion. The prolonged impunity, however, with which these things have been sold, has led their vendors to throw off the mask and drop all periphrasis in their advertisements. Perhaps they fear that young girls may not quite understand what is meant by "female pills" and "obstructions" and the "desired result," so they have lately taken to putting the matter in plain English for the benefit of their readers—and their daughters. From the *Newcastle Evening News* of December 14th we extract the following: "To Married Ladies (gratis).—Write for my secret Remedy for the prevention of large Families. Guaranteed infallible." Again: "Marriage and its consequences.—Advice how to limit your family, and valuable information to ladies." Is it not obvious that a public offer of a means of getting rid of the "consequences" of marriage is a direct incentive, not only to undesirable practices among the married, but to all sorts of immorality among the young, by holding out a promise of relief if difficulties should arise? This is a matter of police. That the police should not take steps to put a stop to what is a public incitement to crime is a cause of unending surprise, which is only exceeded by our astonishment that parents, who would be shocked at any suggestion of immorality on the part of their daughters, should allow such newspapers to come into their houses.—*Brit. Med. Jour.* Dec. 14, 1895.

Diagnosis of Malaria from the presence of Parasites in the Blood.

There are four main types of the protozoon of malaria :

- (1) Spherical bodies ;
- (2) Segmented bodies ;
- (3) Flagellae ;
- (4) Transition forms.

The spherical bodies—which are the most important, because the most numerous and most frequently present—are small, movable structures, of pale color, hyaline, transparent, devoid of nuclei, sometimes showing, when free in the blood, two or three flagellae or threadlike processes ; but when they have invaded a corpuscle, or attached themselves to it, they are devoid of these ciliary attachments. Having invaded or adhered to a corpuscle, the spherical body rapidly grows in size and frequently exhibits amoeboid movements, which give it a constantly changing appearance. These amoeboid structures are commonly called plasmodia. The spherical bodies contain granules of black pigment—the greater the size of the body the greater the number of pigment spots. Sometimes the spots assume a circular arrangement inside the edge of the parasite ; sometimes they are irregularly distributed and endowed with movements of very irregular character, sometimes fast, sometimes slow, and in various directions. It is very probable that the amoeboid movements of the bodies are due to the movements of these spots, as they have been observed to be coincident.

As the spherical bodies grow in, or on, a corpuscle, the color of the latter disappears, from a destruction of its hemoglobin, the corpuscles gradually become transparent, while the parasitic body becomes a deeply pigmented mass which may now undergo segmentation, forming the second variety, or segmented bodies.

These are also spherical in form, but regularly segmented, with the melanin formed from hemoglobin destruction in the center, the whole suggesting in appearance a full-blown rose or marguerite. The segments gradually develop into independent spherical bodies, the decolorized corpuscles are disintegrated, and at the end of two or three days, according to the type of the disease, this new generation of spherical bodies results in a fresh attack.

The flagellae, or third variety, are sometimes free in the blood, sometimes attached to the spherical bodies. They are long threads, endowed with a rapid, snakelike movement, a movement that frequently sets the neighbouring corpuscles in vibration. They are found in about one case in five, but the difficulty of seeing them may account for their apparent rarity. Their movements are best observed about twenty minutes after the blood has been taken from the patient. They have a life of their own, but which is quickly killed by quinine.

The transition bodies, which are said to be characteristic of the fall and winter Roman fever, as well as of all the various atypical malarial manifestations, are crescent-shaped bodies, transparent and colorless. They differ from the spherical bodies in that they have but little pig-

ment, and that only in the center, and while the spherical bodies adhere firmly to a blood-corpuscle, the transition bodies never do. If these should happen to be in contact with the corpuscle, a blow on the slide will easily displace them. Their ends are either sharp or round, and frequently we can discern a fine line on the concave side of the crescentic body, joining the ends. The central pigment is changed hemoglobin. The general appearance and character of these bodies, their size and lack of any evidence of life or motion, have suggested the probability of their being semi-destroyed and changed corpuscles—a belief which more modern investigation has disproved.

There is an essential difference in the appearance of the parasites of tertian and quartan malaria. In tertian, the ameboid movements of the spherical bodies are more active than in quartan. In tertian the decolorization of the corpuscles is rapid, while in quartan the color remains almost until the corpuscle is disintegrated. The spherical bodies are smaller in tertian, and with smaller pigment spots, than in quartan; but the most striking and most reliable difference is in the process of segmentation; in tertian, there being almost twice as many segments formed from one parasite, the segments being naturally smaller. If, then, during a malarial attack we examine the blood, and find decolorized red corpuscles in which a parasite is undergoing segmentation into 14 to 16 parts, we can say with positiveness that the fever is tertian; while, if there are but seven or eight segments, we can diagnose with equal positiveness quartan fever. Quotidian fever is probably not a type, being either double tertian or triple quartan, resulting from the segmentation process maturing on successive days.

At the onset of an attack, or in the fever period, we are more apt to find the spherical bodies. The segmented bodies occur chiefly during the cold stage, or in the intervals, while the transition bodies are mostly observed in the chronic forms of malaria, malarial cachexia, and malarial neuralgias, and also in those who have acquired a tolerance for the poison. While, with a good oil-immersion lens, we can usually detect the parasites in the natural blood, still, for the sake of precision, and to guard against confounding plasmodia with the red corpuscle of poikilocytosis, the blood should be stained. The best results are probably obtained from the dried specimens. A drop of blood is squeezed between two cover-glasses, by means of pinettes rather than the fingers, as the vapor from the latter may change the hemoglobin; when the blood has dried in the air, it is heated in the

usual way, and then treated with a staining solution. For practical purposes, a cover-glass heated for a few minutes in an alcohol flame is dried sufficiently, although an exposure to a temperature of 100 to 120 degrees C. for a few hours gives better results. If overheated, the parasite may become fixed, and not take any stain. In mounting preparations with Canada balsam, the latter should be dissolved in xylol rather than in chloroform or turpentine, as these latter decolorize the corpuscles. The parasites of malaria are best stained by methyl-blue; and a staining fluid, consisting of 1 part of a concentrated aqueous solution of methyl-blue and 2 parts of a 1-per-cent. alcoholic solution of eosin, gives beautiful results, in which the hemoglobin of the red corpuscles is stained an eosin red, the eosinophilous cells a deep strawberry-red, and the ordinary leucocytes and the malarial parasites blue.—P. Kilroy (*Bost. Med. & Surg. Journ.*) quoted in *American Medico-Surgical Bulletin*, Nov. 15, 1895.

CLINICAL RECORD.

CASES BY DR. BRAJENDRA NATH BANERJEE, M.D.

1. *A Case of Opacity of the Cornea*: A lady, aged 25 years, after an attack of ophthalmia came under my treatment in Oct. 1893 for loss of sight in both eyes from opacity of the corneæ. The lady was of scrofulous constitution, having enlarged glands in both sides of the neck as well as otorrhœa of both ears.

I put her at once under *Calc. carb.* 30, thrice a week. In one month she was so far better that she could see objects before her though dimly. In three months the opacity in both eyes entirely disappeared. The running from the ears also ceased entirely, but the enlarged glands in the neck though diminished in size did not disappear altogether.

2. *A Case of Scrotal Tumor*: A resident of Colootolla of this city had been suffering from a large scrotal tumor. The whole tumor used to get inflamed once every month during the time of the full moon. In this way month after month the tumor was increasing in size.

He came under my treatment in January 1891. He was sober and regular in his habits and in other respects very healthy, having suffered from no other complaint since his youth. I gave him *Hydrocotyle Asiatica* 3, twice daily. He did not report to me for six months during which he was taking *Hydrocotyle* regularly twice daily. The size of the tumor had decreased to half its size, and from the time he commenced to take the medicine the periodical fever ceased to appear. He could now walk easily and attend to his business without any

inconvenience. I asked him to continue the medicine twice a week and report to me after a month. He did not see me till after two years. He said he has not derived any further benefit, and I found the tumor of the same size as when I had seen it two years ago. I did not prescribe for him as he was unwilling to continue under my treatment.

3. *A Case of Loss of Memory*: Babu——, an attorney, came under my treatment in April 1893. The previous history of the case showed that ten years ago he had contracted syphilis and had eruptions all over the body.

When I first saw him he looked very healthy and had no marks left on his body. His only complaint was loss of memory and incapacity to remember proper names.

I gave him *Acid Nitric* 6, once daily for a week. On my second visit I was glad to notice substantial improvement. Within three weeks he reported himself all right, and I discontinued treatment.

It is well here to state that he never took mercury in any form and had no salivation. He had taken some root for a week for the cure of his syphilis.

4. *A Case of Diarrhœa*: A lady, aged 45, who had morning diarrhœa for two years, came under my treatment in May 1893. The stools were green or sometimes greenish yellow, thin, watery, and passed only in the early morning. There used to be three to four stools by 8 A.M. and no more during the day or night. There was the urgency of Sulphur and Aloes, but no burning or rumbling of the last named medicine. *Natrum sulph.* 30 twice daily, cured her in a couple of days. The diarrhœa has not since returned.

A mild Case of Epilepsy cured by Calcarea carb.

Under the care of Dr. MAHENDRA LAL SIRCAR, M.D.

J——, aged 13 years, suffering from epileptic fits from the latter end of July last, came under my treatment on the 19th Sep. 1894.

Previous history. The boy had resided for sometime at Chandpur, a sea-side watering place on the Midnapur coast of the Bay of Bengal. Here he used to take sea baths, and he used to bathe also in a dirty tank. The tank water after boiling was used for drinking purposes as well. A few days after his return from Chandpur, eruptions like boils, appeared on his thighs and arms. The parts used to itch and subsequently became hard and red. A medical practitioner gave some lotion

for application to the parts. After its application the eruptions disappeared for a short time, but appeared again attended with fever. One of them formed an abscess and burst; but the eruptions continued to appear off and on. After a few days the skin began to fall off from both the hands in scales. He began to have headache at the same time. The skin of the feet also began to fall off. It was about this time that the fits made their appearance and were of a very mild form. There no convulsion; there was only stretching of the hands and feet before and after a fit. The eruptions disappeared after a few doses of some homœopathic medicine but the headaches increased.

Present Symptoms:—The fits come on usually during the day time and rarely at night. Only twice during two months he had fits during sleep. Before the commencement of the fit he has a sensation of laziness with yawning (গাভাঙ্গা ও হাইতেনা). During the fit there is only slight groaning, but consciousness remains, so that he can answer questions asked at the time. The fits end with jerks of the head towards one side or the other. In the beginning he used to ask those near him to press his temples, but now he would not allow any one to touch his head, as it was unpleasant to him. He grinds his teeth during sleep and has involuntary startings.

20th. September 1894. *Bell.* 30.

22nd. The fits were not less. One peculiarity that was observed was, that the boy was all right so long as he was out of his house, in the open air, either driving or walking about. *Puls.* 30.

25th. Fever since yesterday evening. Has cough and a pustule in the left lower lid near the inner canthus. He had taken some plantain custard yesterday. *Hep. sulph.* 6.

26th. No fever. Fits more frequent during sleep. *Sil.* 12.

27th. No marked improvement. *Calc. c.* 30.

28th. From the day of the administration of the medicine the child began to improve, and a few days after information was received that he was doing well. The subsequent report, after a month, was that the child was cured.

THERAPEUTICS OF CONSTIPATION, DIARRHŒA, DYSENTERY, AND CHOLERA.

124. JABORANDI.

Constipation :

1. Constipated ; two motions, instead of the usual three.
2. St. at 7 A.M., again at 7 P.M., both difficult to evacuate, consisting of large, long, and very dark feces.

Diarrhœa :

1. Five to ten sts. a day, very loose, copious, thin, watery, yellow, undigested, painless, came on with a gush.
2. St. yellow, better digested, but came on with a gush.
3. St. papescent and very large.
4. St. thin, better digested, with more control over sphincter ani.
5. Bowels moved at 7-30 A.M. with this difference, the discharges were less papescent than heretofore ; first portion was $\frac{5}{8}$ of an inch in diameter and 5 inches long ; the latter portion was papescent, color dark-brown.
6. Diarrhœa, after vomiting (Dog, after injection into crural vein).

Dysentery :

1. Copious, sanguinolent diarrhœa (Dogs.)

Aggravation :

1. During day from 6 A.M. to 8-30 P.M.

Amelioration :

1. After eating a full meal (relief of pain in stomach).
2. After taking a small quantity of whiskey (all effects including nausea, vomiting, retching).
3. From Belladonna and its alkaloid Atropine, which are effective antidotes.

After St :

1. Feeling of goneness, emptiness in abd.

General Symptoms :

1. Headache almost every day towards noon ; with hurried breathing, pressure on chest, great anxiety, palpitation of heart, and pain in region of heart. The ache is of a dull, throbbing character, chiefly in front and top of head, and lower part of occiput.
2. Lachrymation increased. Tears, collecting in the canthi, roll over the cheeks. Pupils contracted. Disturbance of vision ; distant objects being misty and indistinct. Dimness of sight, in spite of wiping the eyes and frequent winking.
3. Copious discharge from nose due to increased secretion of Schneiderian membrane as well as flow of tears into nose.
4. Flushing (redness and heat) of face, ears and neck. Paleness of face as the action of the medicine subsides.
5. Tongue covered with a light fur. Taste, mawkish bitter. Speech so affected that articulation was both difficult and indistinct.
6. Salivary secretion enormously increased ; all the salivary glands contributing to the effect. Submaxillary gland especially enlarged ; on pressing it there is a gush of saliva

under tongue. Salivation and perspiration continued to be profuse until sight became blurred. Constant spitting of saliva. Saliva stringy, but not very viscid. Urea in notable quantity in saliva.

7. Dryness of back of throat. Throat dry and inflamed. Tonsils slightly swollen.
8. Intense thirst. Eructations, hiccough. Nausea immediately, continues long with inclination to vomit, often followed by violent vomiting, which is very annoying and exhausting, threatening collapse. Nausea and vomiting often followed by increased frequency of micturition. Vomiting of ingesta, of bile, followed by retching.

Dull, heavy distress in pyloric portion of stomach, as though some hard indigestible substance was lying there, relieved after a full meal. Considerable distress in stomach and lower half of œsophagus, removed by *Pulsatilla*.

9. Empty, gone feeling in bowels.
10. Burning in urethra with urging to urinate. Secretion of urine increased even during perspiration. When administered in fractional doses, *Jaborandi* does not produce either perspiration or salivation, but becomes a powerful diuretic. Urea, chlorine and the chlorides, as well as uric acid diminish on the first day only to increase on the second.
11. Bronchial secretion increased, accompanied by loose cough. Breathing hurrid during soreness of throat. Pains in chest and around heart.
12. Pains about heart very severe, with severe palpitation. Increase of pulse and temperature at beginning and height of sweating, notable lowering after.
13. On uncovering felt cold with horripilation and griping in bowels as after a purge, though there was no evacuation. Immediately on covering these disappeared, and perspiration began. Sweat breaks out on face and upper part chest, then copious sweat all over. Excessive perspiration from all parts of body, a Turkish bath was nothing to it; finger-ends shrivelled like a washer-woman's; bed-clothes drenched. Urea in notable quantity in perspiration. Checks perspiration when one is perspiring.

Smart fever, heat beginning in face extended all over body, increased pain in head, general inalaïse (no thirst), very restless, talking, moaning, with some delirium. All this was removed by *Belladonna*.

More or less intense chilliness near close of sweating.

14. Generally sleep profound and sound. Heavy sleep, even when reading.

Restless sleep, disturbed by dreams of accidents and fights.

15. Increased secretion of milk.

16. Collapse without vomiting (in very weak persons).

Post MORTEM (Dog): Intense congestion of mucous membrane of

stomach and bowels; brain and its membranes also congested. Ecchymotic spots in lung, below pleuræ.

Remarks : JABORANDI (*Pilocarpus pinnatus vel pennatifolius*) is a unique drug in the materia medica. It augments the secretory activity of the glandular organs (at least of the majority) in connection with the digestive apparatus. It augments the secretion even of the mammary glands, of the lachrymal glands, of the Schneiderian membrane, etc. What its action is on the reproductive apparatus has not been ascertained. It has no equal in the whole range of the materia medica in its power of increasing the secretion of the salivary glands and of the sudoriparous glands of the skin. Both the saliva and the sweat are, under its action, astonishingly profuse in quantity, and the latter is so great as to threaten collapse. The alkaloid PILOCARPINE produces all these effects with much greater energy than the crude drug, and is hence more certain in its effects. The infusion of the leaves has been observed to be more powerful in its action than the tincture.

Constipation seems to be the primary, diarrhœa the secondary, action of the drug. In dogs it has been found to produce sanguinolent stools which are copious. Hence it may be useful in constipation, diarrhœa, and dysentery. The constipation stools have this peculiarity that they are large, *long*, and dark-colored. The diarrhœaic stools are yellow, watery, undigested, *painless* and gushing. Were it not for the profuse salivation which it produces, and which is rarely if at all a symptom of cholera, it would be a capital remedy in this disease. It is a matter of serious consideration, however, if, when copious and uncontrollable perspiration forms an alarming symptom of cholera, JABORANDI may not be used with advantage. It certainly deserves a trial when other remedies fail, and then experience gathered in this way would lead to its more precise use.

It may be useful in those cases of dysentery in which the sanguinolent stools are copious, and in addition there are copious salivation and perspiration.

It is hardly necessary to remark that the drug should be used with great caution.

125. JALAPA.

Diarrhœa :

1. Soft, pale evacuations (in Carnivora, after injection into jugular vein).
2. Copious, liquid sts. First st. always thick, has a reddish tinge; with a sour smell (strikingly different from the putrid smell of aloes sts.)
3. Violent, excessive watery evacuations.

Dysentery :

1. Bloody sts.

Aggravation :

1. Night (abdominal pains).

Before St :

1. Cutting colic.

During St :

1. Cutting colic.

General Symptoms :

1. Great restlessness with anxiety.
2. Violet headache. Smarting in skin of forehead.
3. Humming in ears.
4. Dryness of lips. Biting and smarting of tongue. Stinging in tongue and fauces.
5. Flatulent and frothy eructations with abatement of pain. Nausea and vomiting.
6. Increased motion of stomach, succeeded by an increased activity of small intestines as far as region of cæcum, where a sensation of illness becomes seated for a time ; then prover experiences a motion in colon and its flexions, until a desire for stool ensues, which takes place without any great irritation, without being succeeded by any other irritation or desire, even if another loose evacuation should take place.
7. Colic ; violent seated pains in small intestines, as if abdomen would be cut to pieces (worse at night). Inflammation of intestines.
8. Soreness of anus.
9. Pain and pressure in region of bladder.
10. Excessive uneasiness and tossing about of limbs. Pain in thighs. Severe pain about superior margin of scapula. Aching in arms and legs, mostly right side. Smarting on inside edge and at root of left scapula. Pain in large joint of great toe. Burning of soles of feet.
11. Fainting fits. Weakness.
12. Diminution of pulse and temperature after several watery evacuations. Great disposition to perspiration of head and superior parts of body.

Remarks : Notwithstanding the scantiness of its symptoms, JALAPA may be used with good effect in diarrhoea. It has been recommended and found useful in the diarrhoea of infants when the little patients are quiet all day and scream and toss about all night, or when there is general coldness, and blueness of face. We do not see any reason why with similar symptoms it may not be useful in the diarrhoea of adults also. Whether it may be used homœopathically in constipation and dysentery further provings and further experience based upon them can alone show.

Gleanings from Contemporary Literature.

RECENT ADVANCES IN BACTERIOLOGY, WITH SPECIAL REFERENCE TO FOOD.

By M. V. BALL, M.D.

BACTERIOLOGY is, comparatively, a recent science. Only within the last ten years has it received any special attention, and within this time it has been given a place in the medical colleges and become recognized as an important department of knowledge.

Municipalities are forming laboratories for bacteriological work, and governments are instituting, on a large scale, researches which must eventually be of great service to mankind. It is hardly to be expected that this subject should as yet be the common property of any but those who have made it a special study, and, therefore, a few words as to the nature of bacteria will not be out of place here.

Bacteria—from the Greek, meaning little or minute rods—is a term applied to various forms of organisms, microscopic in size, closely allied to the lower types of fungi and algæ; usually containing no chlorophyl; capable, in many instances, of propelling themselves with swift motion through the liquids in which they are found, and possessing, for this purpose small cilia or flagella, like other types of microscopic plants.

They are very minute, requiring for their detection powerful lenses. Some idea of their size may be obtained from the statement that in the space of an inch from 15,000 to 20,000 can be placed side by side; but, growing together in large numbers as they do, such aggregations or colonies can readily be seen with the unaided eye, though the individual members of these colonies cannot be recognized.

Bacteria are neither yeasts nor moulds, though possessing some of the characters of both.

The name, "bacteria," is not a good one, since other than rod-shaped organisms are collected under this group. Micrococci are globular or spherical bacteria; bacilli are the rod-shaped bacteria; and spirilli are spiral formed or twisted bacteria. The colonies of one form are not to be distinguished from the others, but under the microscope the difference in shape is readily made out.

Bacteria are quick breeders; they multiply very rapidly. From one or two germs thousands are obtained in the course of a few hours. Some one has made the calculation that a single germ, if uninterrupted in its growth, would fill an ocean with its progeny in five days; but, fortunately, it digs its own grave by the poisons it generates, and so puts a limit to its growth. Some require several days before germination occurs. Two kinds of growth are known: One, in which reproduction is a process of fission or segmentation—one bacterium dividing itself into two, and each of these again subdividing—in reality, a continuation rather than a reproduction. And a second kind, known as sporulation. The germ gives rise to a spore; the

the spore then takes on a separate existence, and, when the conditions favorable to maturation exist, it gives rise to a new germ.

Both forms of growth are utilized by the same bacterium. Under ordinary conditions it multiplies by fission when a permanent form is advantageous, or, as some think, when the soil is particularly rich, it produces spores. Spores have not been found in all bacteria; those possessing them are very resistant to all physical and chemical agencies, and withstand a high degree of heat without being destroyed.

For the different bacteria different conditions are necessary. Just as different plants require different kinds of soil and temperature, so these minute plants react differently and demand for their growth various surroundings. Some are not at all particular, and flourish on any sort of soil. They are like weeds that grow without attention; others again are as sensitive as hothouse plants, and require very carefully prepared media and a suitably regulated temperature. While some species demand a plentiful supply of oxygen, others grow only when this is excluded. Sunlight is usually destructive; an alkaline medium is better tolerated than a neutral one, and acids are usually harmful. Moisture is necessary to growth.

Bacteria are not only disease producers, they manufacture a host of products beneficial and essential to life. Life itself depends, in a great measure, upon the actions of these minute plants, which transform the complex molecules into their elements and make them fit for assimilation. If we could separate the industrial germs from the pathogenic or disease producers and domesticate the former, while we drive the latter out of existence, life would be more worth the living. This is gradually being attempted. Scientists are pointing out to us the properties of individual varieties and showing us the methods of cultivation; while hygienists and therapeutists are doing all they can to exterminate the destroyers of life; so that we can already see how, in a few years, cholera will be a rare disease, and tuberculosis will no more be counted as the cause of one-fifth of all deaths.

What advances, if any, have been made in recent years as relates to the subject of foods? This is the topic I have been asked to consider: "Bacteria in their relation to food."

First of all, I desire to take up the most important of foods, namely water. Water is a food, because it is necessary to sustain life, and considered in this sense, air might also be classed as a food. But whether or not we call water a food, there are other reasons sufficient for us to make it a matter for consideration here.

Formerly a good water was one which came up to a certain chemical standard. The amount of chlorides and nitrates was determined, the hardness was computed and the total amount of solids ascertained. If a water did not contain more than one grain of chlorine per gallon, it was deemed potable. To-day, while chemical analysis still has an important place in the examination of water, it must go hand in hand with the biological or bacteriological analysis, and we must know what sort of living organisms inhabit or are to be found in the specimen in question.

In the early days of bacteriology much stress was laid upon the number of bacteria found in a given quantity of water, and water containing more than 500 colonies to the cubic centimeter was deemed unfit for drinking, but now it is not so much the quantity as the quality of the bacteria that is looked for. One typhoid bacillus in a gallon of water is more dangerous than one million ordinary water bacteria; in fact, it would render the water inpotable, while the latter would be harmless. Thus, the water analyst of to-day must be a competent bacteriologist as well as chemist; and to be a bacteriologist means a pathologist as well, for, in the investigation of bacteria, animals must be used for experiment, and the nature of the diseases caused by the bacteria must be known to the experimenter.

As in the earlier chemical analyses, the chlorine itself was not considered dangerous, but simply one of the indications of faecal contamination, so in the bacterial examination, the presence of certain harmless germs may indicate dangerous contaminations. For instance, the presence of the bacilli commonly found in human feces, which in themselves are non-pathogenic, would, of course, lead one to infer that human sewage had become mixed with the water supply.

The methods for the detection of typhoid bacilli in drinking water leave much to be desired. The examination is often undertaken too late, when the bacilli are no longer present, or have been destroyed by the ordinary water bacteria. Typhoid bacilli do not live long in ordinary drinking water; and yet, if the water be contaminated with them, a whole city or district can become infected in a short time, and when suspicion is directed to the water the germs have disappeared. To a less degree this is likewise true of the cholera spirillum, which acts so quickly and is so deadly, and which usually is spread through the drinking water.

A method lately described, and which promises success, is to take a large quantity of the suspected water (2000 cubic centimeters) and add to it 2 grammes of peptone and 2 grammes of chloride of sodium. Place this in the incubating oven, and, if cholera germs are present, they will multiply rapidly, so that they can readily be detected in the course of ten to twelve hours.

Bacteric examinations have been most useful in the testing of water filters, "germ proof" filters, etc. Several filters are now in the market, which claim to be germ proof; that is to say, which are supposed to prevent the passage of bacteria through the very minute pores of the filter. These filters are made of baked clay, infusorial earth, porcelain, etc. As a rule, they can deliver a germless water only for a few days in succession, when owing to the activity of the bacteria which have collected on the surface of the filter cylinder, the pores are penetrated by the growth, and more bacteria than usual find their way into the water. This, in some cases, can be prevented by a careful cleansing, every few days, of the filter tube. All tubes are not alike, and some afford no protection at all, though they clarify the water by keeping out the grosser particles of dirt.

Filters are best tested by adding to the water, before filtration, some well

known bacterium (usually the red pigment forming and rapid growing *Bacillus prodigiosus*) making cultures before and then after filtration. If under suitable precautions the germ is found present in the filtered water, the filter is imperfect. In the testing of large filtering plants, where it is not expected that the water will be perfectly free from germs, quantitative methods must be used in order to tell what percentage of bacteria is left behind.

These large filtering plants are in use in several cities, and, it seems to me, they are of doubtful value only. It is true the water is more pleasing to the eye, and, for toilet and laundry purposes, more valuable; but if the water is contaminated with disease germs, there is no surety that they will be among the 50 per cent. filtered out. They are just as liable to pass through as the others, and such a water is not safe. From the sanitary point of view, filtering plants are only valuable when the water is uncontaminated by human sewage, and to erect such a plant in our city, without paying any attention to the source of our water supply, and even allowing it to be polluted along its whole course, will hardly reduce the death rate, though it may add to the æsthetic quality of the water.

On an average, 500 deaths occur every year in this city from typhoid fever. This means at least 6,000 cases. From an economic point of view, the persons affected are the most valuable members of society, chiefly young adults between the ages of 20 and 40. The expense, in loss of time, medical attendance, etc., is at least \$100 for each case, a total cost of \$600,000 yearly from this one disease, to say nothing about the loss of life; and all because we are obliged to drink the sewage of half a dozen towns above us, and the drainings from graveyards and pigsties along the banks of the Schnylkill.

And while we are thus treated by the cities above us, we send our sewage to the towns below. Some strict measures must be put into practice, which will prevent this pollution of our drinking water.

The second important article of food, with which bacteriologists have busied themselves, is milk. A good milk must contain a certain amount of solids and fat, but it can be adulterated with far more harmful matters than water, and these other adulterations are not so easily detected.

A few hours after milking, ordinary milk has been found to contain 1,000,000 germs to the cubic centimeter. How did these get in?

If the udders of the cow are not kept clean, the first flow of milk will wash the dirt into the milking pan. If the man who milks the cow is uncleanly in his habits, using dirty hands in the operation, the milk receives this dirt. If the stall is the place for milking, and other animals are moving about, the dust raised falls into the open pail and contaminates the fluid; and, finally, in the transportation from the farmer to the collector, from the dealer to the customer, a hundred opportunities present themselves for the entrance of bacteria, which, when once in, thrive abundantly, the milk being a rich and suitable soil for their growth.

In the markets of Halle, Berlin and Leipsic, Ranke succeeded in finding

in the milk exposed for sale, considerable quantities of cow dung, which, of course, greatly increased the number of germs to the cubic centimeter—in one case up to 169,000,000.

Bolle, the milkman of Berlin, who sells 60,000 quarts of milk daily, has endeavored to make his large establishment conform to scientific requirements. He has a competent bacteriologist, who makes frequent examinations of the product. The milk is obtained from such dairies only as are under his inspection. Separate examinations are made of the different herds, so as to trace disease to its proper source. The collected milk is filtered each day through immense sieves of gravel, which have first been subjected to a high degree of heat in order to sterilize them. The milk is forced through from below upward, and collected in proper vessels. Four thousand quarts pass through such a filter in one hour. By this means the dirt is removed and with it about 50 per cent. of the bacteria present.

While this filtered milk keeps longer than the unfiltered, and is more readily sterilized, it is just as dangerous if disease germs were originally present, since, as was stated above, in connection with the filtration of water, the disease germs are just as likely to be among the 50 per cent. that pass through as to be among those that remain.

In order to render milk completely sterile, it must be subjected to such a degree of heat as will coagulate the casein and make the product undesirable in other ways. If, however, great care be exercised in the milking and sterilization be carried on at once or shortly after, a very moderate degree of heat will be sufficient to make the milk entirely sterile.

One of the bacteria that is often found in milk has very resistant spores and, therefore, if milk becomes contaminated by exposure to the dust and dirt of the air or stall, ordinary warming or heating, as is done when milk is pasteurized (so-called sterilized milk), will not suffice to destroy these spores.

Milk is often sold to us in bottles, and one would imagine that such a product was reasonably clean; but this bottling is done in a very careless way, often in the street by some ignorant delivery boy, while the street sweeper is raising clouds of dust, some of which lodges in the exposed milk.

In one dairy in Dresden, Germany, all the milk comes from stall fed or dry fed cows, experience having shown that such cows give a product that is less variable and contains fewer germs and sours less speedily than when they are fed on fresh grass. Great care is taken in the milking, and especial attention is paid to the cleanliness of the employees. After the milking the milk is placed in coolers, where it remains two hours at a temperature of 10° C. Then it is put into a centrifuge in order to separate the dirt that might accidentally have fallen in. It is now warmed up to 65° C. (pasteurized) and collected in half pint sterilized bottles, and the filled bottles again heated for one hour and three-quarters at 65° C. and quickly cooled. Such milk is reasonably sterile, and the method is the only one to be recommended.

Unless all these steps are followed, the milk cannot be considered sterile.

What danger is there in milk from tuberculous cows? This is a question which, just at present, is receiving considerable attention.

Tuberculosis is very frequent among cattle. In the slaughter houses of Berlin out of 142,000 head of cattle 21,000, or 15 per cent., were found to be tubercular. In all Prussia 10 per cent. of all the cattle slaughtered annually are found to be affected with this disease. Some veterinarians claim that 30 per cent. of all cows are infected, and that a herd cannot be found that is entirely free from the disease. From this one can readily see the importance of this question. In New York City 900,000 quarts of milk are consumed daily. Consumption is likewise a very common disease, causing from one-third to one-fourth of all the deaths among adults, and many, if not the greater number, of the diseases of children are tubercular in origin.

Is the cow an enemy to man? Are we warranted in accusing the milk of consumptive cows as being the cause of consumption in man? The last word has not yet been said on this subject. We can only give the opinions of authorities, the present beliefs gained from the knowledge at hand; and these are that if the udders of a cow are unaffected, if there is no local tuberculosis, no bacilli are to be found in the milk, the milk may be considered safe. Yet later investigations have shown that the toxic principles of bacteria find their way into the milk, that the milk of an animal rendered immune to diphtheria or tetanus has the same properties as the serum of the blood, and can protect other animals. If this is uncontroverted, then the milk of tuberculous or consumptive cows may have within it the products of the tubercle bacilli, and such milk may have the same effect upon the human organism as these products obtained artificially or from cultures outside of the body. The discussion on the benefits or ill effects of tuberculin has not yet been closed, and it is impossible to say, therefore, whether such milk, i.e., milk containing tuberculin, is positively harmless or dangerous.

In Paris all cows whose milk is offered for sale must be tested with tuberculin to prove their freedom from tuberculosis. Our own board of health has strongly advocated a similar test.

Tuberculin has been found reliable in the greater number of cases, i. e., if an animal showed signs of temperature rise after the injection of the tuberculin, the disease has always been found present; but the disease has been found when no rise has occurred, so that it is a positive test only. Tuberculosis is present whenever there is a rise of temperature, but it is not necessarily absent if no reaction occurs.

Because tuberculosis is so very frequent, because 2,700 deaths of adults between 15 and 45 occur every year in this city alone from this one disease, it behooves us to try every measure that holds out the slightest chance of success in reducing this awful mortality; and, therefore, if only as an experiment, it would be worth the time and money to destroy every suspicious animal and thus prevent the sale of all milk save that obtained from perfectly sound cows. Any reduction in the death rate from this disease will be a step in advance, and efforts should be directed to this end at all cost.

If the milk of consumptive cows is dangerous, then cheese and butter made from such milk is likewise dangerous, and the sale of such should be equally guarded against.

In Germany, butter has been made from sterilized milk by the addition of pure cultures of certain bacteria, which have the power of coagulating the milk. Such butter has a constant flavor, and does not deteriorate so quickly as butter produced in the ordinary way.

To summarize in regard to milk we can say that, (1) a careful inspection of the dairy; (2) a close examination of the cattle; and (3) cleanliness in the transportation and sale, must be rigorously enforced to safeguard the public health.

As regards meat, little has been said or done. Meat is rarely used in the raw state, and cooking generally renders ineffective the germs likely to be found present.

In the cities of Europe, careful inspection is practiced at the abattoirs and meat from diseased cattle is excluded or sold under restrictions. Meat shops are likewise kept very clean, and the meat is seldom exposed in filthy warehouses. In our own cities some of the meat offered for sale on the stands and in street shops is most unfit for food—some of it, indeed, in a state of putrefaction. Some cities have laws which make such meat liable to seizure, but these laws are seldom operative.

The advances in fermentation deserve attention, for though they are not, strictly speaking, connected with our subject, yet so closely are the yeasts related to bacteria, and so similar are the methods of cultivation, that any discoveries in the one field are sure to be of value in the other. Bacteria have always been a disturbing element in industrial fermentations and expensive methods have been resorted to to prevent the entrance of disease germs—disease here meaning impure or improper germs.

The yeasts were formerly considered as few in number—as alcohol producers and non-alcohol producers; no serious efforts were made to obtain pure cultures, but the mashes and brews were kept under such conditions that the foreign germs were prevented from growing or multiplying. Beer was stored in ice cellars, whisky was subjected to special temperatures, and other elaborate measures were used which can now be dispensed with if we start with pure cultures of yeasts at the beginning and avoid the entrance of impurities from air, water, etc.

In Denmark, Hansen (and from him a school has originated) pays great attention to the cultivation of pure yeasts. Brewers can obtain from the laboratories such pure cultures and thereby insure a definite alcoholic strength, a constant flavor and a product that will not deteriorate, even under varying conditions of temperature, etc.

• By experimenting with different combinations of yeasts, various degrees of bitterness and different aromas can be developed.

Wines depend very largely for their bouquet, not so much upon the grape as upon the particular germ or germs used in the fermentation of the juice. Experimenters have obtained, with the same kind of grape, a half

dozen different wines by using as many different yeasts. As the pigment yeasts produce various colors; so the yeasts used in fermentation give rise to various ethers, and these ethers give the wine its peculiar bouquet.

We should expect to obtain a Rhine wine from a New Jersey grape by using the yeasts which are common in the Rhine region or on the Rhine grape. Even out of apple must a good tasting wine has been produced by the use of particular cultures of yeast.

These researches have revolutionized German brewing, and the large breweries now have competent bacteriologists in their employ, who attend to the cultivation of their yeasts.

The spaces or holes peculiar to certain cheeses are due to the evolution of gases during the ripening process. These gases are produced by certain bacteria, and by using pure cultures of these gas-forming bacteria in the manufacture of cheese, these air spaces will always occur. The odor of cheese is likewise due to bacteria, and special flavors can thus be obtained at will by using the particular germs.

Bread made from pure yeast will be found to be more digestible, to be lighter and to possess a sweeter flavor. Too little attention has been paid to this in baking. Mixtures of yeasts and bacteria are used, and the baking powder or the flour is blamed for poor results. Sour bread is usually due to a poor quality or impure kind of yeast. The soil out of which we obtain such important food stuffs has been studied bacterially and has been found to contain peculiar germs, which are all necessary to the growth of the plant. These are the so-called nitrogen-forming bacteria.

They convert the nitrates into nitrites, the oxidizers of organic material more necessary to the well being of vegetable life than anything else. Instead of using tons of fertilizers, the agriculturist of the future will cover his fields with cultures of the nitrogen germs and obtain better results. We will even have special germs for special plants. The science of agriculture is yet in its infancy, if we may believe the promises held out to it by bacteriology. Even at present the agricultural colleges are equipping themselves with laboratories for bacteriological research.

Thus I have tried to show that the recent advances in this science are as nothing compared with what may yet be expected; that in these germs, microbes and bacteria, mankind has deadly foes and also important friends; that we must do all we can to rid ourselves of the former and make the latter our willing slaves.—*Scientific American Supplement*, Nov. 30, 1895.

PTOMAINES AND GERMS IN DRINKING WATER.

BY BUSHROD W. JAMES, A.M., M.D., PHILADELPHIA, PA.

• [Read before the Philadelphia County Homœopathic Medical Society.] •

WATER, like food, need not necessarily be absolutely and chemically pure to be healthful, yet there is a certain standard between the very pure and very impure which must be attained in order that life may be maintained for any length of time. Distilled water, which is the nearest approach to

strictly pure, or germ-free liquid, is insipid and very unsatisfying to the human taste ; therefore it can never be made to take its place as an universal beverage on account of that property. The next in purity would be snow water obtained from such a height as to be beyond the reach of gases, salts or any other such deteriorizing substances, as well as above possible contamination from any form of disease germs. Then would come hail or snow melted on the lower atmospheric level, after it has been falling for some hours, so as to allow sufficient time for the snow to have borne down and buried the germs and dust floating in the atmosphere. Then we might next place water filtered through sand or earth so deep as to have imprisoned in this soil all bacteria or impurities as the water slowly forced its way through. Artesian well water belongs in this class because of its percolating through a long distance of earthy material as does also the liquid from deep springs ; and if either of these two is obtained from comparatively clean districts in which no germs of disease exist, containing only the harmless salts peculiar to the geological formation of the locality in which the waters are found, they may be trusted as being entirely healthful for the public in general, but even then upon the predominance or absence of certain properties must depend the question whether or not they are suitable drink for every resident. A change of drinking water very often gives rise to slight disarrangements in sensitive constitutions, but as a general thing but a short time is requisite for the system of such an individual to conform to the new beverage. If it does not, there must be a preponderance of some antagonistic salt or chemical, and possibly medical advice will be necessary. It is very seldom that ordinarily pure water causes any permanent disturbance. Clear, sparkling water may not always be pure because it may emanate from a marshy neighborhood and carry the miasmatic materials for malarial diseases in its rippling course through decaying vegetation. Ordinary foresight in selecting a residence will obviate any such danger, for marshes and lowlands are almost always malarial and therefore to be avoided.

Bacteriologists have demonstrated that some disease-producing bacilli, when vitality is extinct, leave in their dead bodies a toxic principle or ptomaine, which though infinitesimal in an individual microbe, when accumulated from multitudes of decaying organisms makes a poisonous agent sufficiently strong to interfere with the health of a human being and probably to jeopardize his life. Therefore if masses of inimical bacteria are deposited in small streams and are continually passing from them into the rivers which form the water supplies of large cities, it is very evident that temperaments that are susceptible to bacterial influences should become affected unconsciously through drinking the city water rather than through any atmospheric agency.

It is for this reason particularly that we wish to call the attention of the medical profession, as well as that of the whole community, to the consideration of the neglected subject of how to rid our drinking water of the deleterious organisms contained therein, where there is not a sufficient amount of sunlight and moving atmosphere to destroy them before they enter the reservoirs that supply our cities.

Sunlight, to be entirely effective, would need to shine every hour of the twenty-four and every day in the year. Atmosphere to be efficacious would have to be constantly churned into the water by a series of cascades, waterfalls, or rough shallows, spreading over a great surface and with sufficient elevation to allow the water to descend and flow rapidly over a gravelly or very rocky bed immediately before its entry into the reservoirs or distributing pipes. These plans are the ideals for the purification of water from disease germs, but unfortunately they are impracticable, particularly where large supplies are required, as in the large cities and towns. Another ex-

pedient would be to select pure springs, the waters of which are filtered through earth free from the taint of either vegetable or animal decomposition and from mineral deposits of a nature in any wise dangerous to life ; to clean out the springs, to clear the loose earth strata, wall and cement them, cover them closely, and direct their outflow into small stone aqueducts or covered channels, through which the water could be deposited in proper receptacles at convenient centering points, all of which should be underground or hermetically sealed from all atmospheric influences or from overflow from any other stream. The water from many such springs collected in immediate localities, then centering in these cistern like underground receptacles, and from thence finding their way still beneath the surface to the city reservoirs, and always thus kept covered and free from noxious productions of any kind, either generated in the water or thrown therein, and likewise delivered through clean conduits to consumers, would be the ideal method, for furnishing pure, potable water to the people. And it is a superior manner to the others, because in it the water does not become affected by microbes, which must be destroyed before the water is rendered pure for drinking use. Two almost insurmountable objections meet this plan ; one is the impossibility of finding a sufficient number of purchasable springs from which to supply cities of any great population ; the other is the problem of how to furnish such water to towns in low lying, level countries, situated on plains with no surrounding elevations from which to obtain this supply of spring water. Consequently we must in such situations resort to artesian wells and pumping stations to overcome this latter difficulty. The former could be made more practicable than would at first seem possible, and the result could be made attainable through the better education of the general public. They must be taught that water for manufacturing purposes, for flushing, for pave-washing and such purposes could and should be obtained from different sources, and delivered through different conduits from those supplying and delivering water for culinary purposes and for drinking. It is obvious how very much smaller quantities would be necessary of the pure unadulterated and health-giving water if this plan were followed and how much smaller the water-plant and reservoirs would have to be, and when the people understand the great importance of the subject they will not be liable to cry out against the expense that would be required for crying out the desirable addition and change. The use of cheap disinfectants could easily be resorted to for clearing the disease germs from the supply to factories, flushing pipes, etc., if desirable, if an epidemic appeared, while the drinking and cooking water by this plan would be at all times entirely beyond the danger of infection in its safe repositories and conduits.

Having obtained a proper supply of water so pure as to be perfectly safe for use, the popular education should continue until every one shall understand that water can be impregnated with the germs of disease after it is drawn into drinking vessels, if it is allowed to remain uncovered and exposed to an impure atmosphere. If the liquid is not to be used immediately it should be closely covered, and never used as a beverage if it has been exposed in a contagious sick room, or in any place where lurking germs may find it. Such extreme precaution may appear absurd, but from the beginning to the end it is no difference what kind of an animal may dwell in water, from the alligator to the most diminutive animalcule, if the extinction of its life gives rise to the existence of ptomaines or toxic products, it is dangerous to the health of persons using that water for drinking, or even for cooking, according as he is more or less susceptible to such poison. At the same time we must impress upon those who may be too suspicious for their own comfort, that there are vast numbers of innocent bacteria in water, in the atmosphere, and even in the mouth, whose presence is not at

all injurious, and whose decomposition does not produce any toxic qualities. By this, we may perfectly comprehend that perfectly pure water, meaning distilled or boiled water, from which all saline substances are extracted, is really not desirable unless the prevalence of Asiatic cholera, yellow fever, epidemic typhoid or diphtheria, makes the danger of contagion require the precaution of subjecting the water to extreme heat in order to destroy the bacilli or bacteria contained therein, for standing water in contact with the open air will absorb again some of the floating atmospheric animal and vegetable germs.

Water in which some animalculæ and mineral qualities are not found is extremely rare, in fact we doubt if it can be found at all except possibly in some of the hot geysers, or boiling springs, and even among them we doubt if there exists any in which mineral qualities are not found. It is obvious then, that when drinking water is supplied to the people it should not be impregnated with either individual or composite mineral substances such as Lithia, or the carbonate of lime, or magnesia. All waters containing more or less of such mineral properties may be antidotal to our prescribed remedies, while only the most careful tests can prove to us whether such manipulated waters hold these deleterious combinations or not. It is best to discard their general use for individual cases, if not most invalids may seriously complicate their maladies by their use. Mineral waters advertised as suitable for various diseases and constitutional conditions are not suited for universal beverages, and should never be used by any one except as a medicine prescribed by the attending physicians. Persons in health should not take them at all, as the chemicals entering into the system may be quite as injurious, and possibly more dangerous, than anything imbibed while partaking of the waters of open streams which supply our cities, notwithstanding the former may be obtained at a high price per gallon, in contradistinction to the water-rent requisite to furnishing the cities with potable water. For this reason alone, those physicians are quite censurable who give promiscuous endorsements to any and all such chemical water combinations.

Let me add another source of danger to an unconscious public. It is that which lurks in some of the numerous mineral waters which are charged with carbonic acid gas, bottled and sold under tempting titles as mineral, spring or table waters. One can have in some instances no assurance that the water entering into their composition, as well as into watered milk and other kindred beverages, is not obtained from the polluted streams or impure creeks into which great quantities of sewage, decaying animal and vegetable matter and other refuse may be emptied every day. Thousands of tempting beverages are consumed daily in warm weather by the thirsty public, without a thought of the contamination which may be entering their systems at a fabulous price for each noxious glass. I think it is right that the people should be earnestly warned against medicated drinks, and shown how much better it would be for them to call for a healthful as well as abundant supply of good drinking water when thirsty. There can be no doubt that better and colder water can be brought into our houses if proper measures are taken, and if people are sufficiently enlightened by competent teachers, to understand that the additional expense will be overbalanced by the agreeable and healthful change. Censurable want of oversight is also doing much toward the deterioration of the water, even after it has been pumped into the reservoirs and runs into the mains or supply pipes. These and the distributing pipes are almost invariably coated with mud, which catches and retains animal and vegetable deposits which either thrive, grow and reproduce, or die and decompose. Small fishes, eels, and possibly other animals, are often forced into the supply pipes, from which it is not possible for them to return against streams to the reservoirs. Therefore, they either

lodge somewhere in the pipes and eventually decay, or as oftentimes occurs they are forced into the hot water boilers of private houses where they rest contaminating the water which not unfrequently the cook uses in preparing tea or coffee, and which is always used in washing the dishes from which food is taken meal after meal. Having sometimes noticed the odor of decomposing matter, I have upon two or three occasions, had the pipes in my house cut, or the boiler cleansed, and the animals which had lodged therein removed. This might occur in any house and be neglected from year to year, making a continual supply of unsuitable adulterated water for kitchen uses. And the greatest difficulty in the matter is that all this is hidden from sight. I think that there could be some plan adopted by which the inside of the water pipes could be kept comparatively clean, and that certain strainers or traps might be so arranged that animals could not enter the supply pipes at any time. The talents which can invent suitable means to meet other difficulties should surely be equal to creating some invention or manner of obviating these conditions which are so truly detrimental to human health. Possibly, if nothing else can be suggested, there may be a plan by which a person can examine the supply pipes immediately connected with his own premises, even though the clogging of the main may be to an extent irremediable. I am thoroughly convinced that there can be better water supplied to our large cities, as well as to the small towns and villages, and I believe that when the water is purer and cooler, which it undoubtedly would be if all conduits were a good distance underground, and specially if they were kept free from impure deposits, that there will be less drinking of mineral waters and other impure concoctions. If we want a temperate population we must give good drinking water, for it is the absence of that which tempts many a one to partake of that which is more agreeable to taste and smell than the water of our own and other cities sometimes proves to be, particularly after a heavy storm.—*The New England Medical Gazette*, November 1895.

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THE
CALCUTTA JOURNAL
OF
MEDICINE:

A MONTHLY RECORD OF THE MEDICAL AND AUXILIARY SCIENCES.

तदेव युक्तं भैषज्यं यदारोग्याय कल्पते ।
सर्वे भिषजां श्रेष्ठो रोगेभ्यो यः प्रसोचयेत् ॥

चरकसंहिता ।

That alone is the right medicine which can remove disease :
He alone is the true physician who can restore health.

Charaka Samhitā.

EDITED BY
MAHENDRA LA'L SIRCAR, M.D., C.I.E.

VOL. XIV.

Calcutta:

PRINTED AND PUBLISHED BY P. SIRCAR, ANGLO-SANSKRIT PRESS,
51, SANKARITOLA LANE.
LONDON. THE HOMOEOPATHIC PUBLISHING COMPANY, 2, FINSBURY CIRCUS, E. C.
(Sole Agents for the United Kingdom.)
NEW YORK: BERICKE AND TAFEL, 145, GRAND ST.
(Sole Agents for America.)

1895.

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OF
MEDICINE

VOL. XV.] **February. 1896.** [NO. 2.

A COURSE OF CLINICAL THERAPEUTICS.

BY DR. P. JOUSSET.

Lecture I. On Therapeutics.*

We have adopted this title of *Clinical Therapeutics* because we propose to study in these conferences therapeutics at the bed-side of the patient. Certain professors of clinical medicine occupy themselves almost exclusively with diagnostics; as if this was clinical medicine properly so called. Here, diagnostics will be only studied so far as it is necessary to furnish a basis of therapeutics; indeed, if I cannot distinguish synocha from typhoid fever, or valvular from vascular endocarditis, how shall I appreciate the value of medications?

It has been said with just reason, that therapeutics is the crown of the medical edifice. It is the meeting ground of all our knowledge about the nature of man, about disease, and about its causes.

And meantime we feel obliged to put the question—Does therapeutics exist? And is the interference of physicians with the course of diseases anything else than an illusion?

The study of therapeutics up to the commencement of this century justifies in a great measure the scepticism which regards the treatment of diseases as a great deception.

* *L'Art Medical*, Janvier 1896.

Indeed, the violent and perturbative therapeutics founded upon the theory of the four humors of Galen, and which continues in general practice notwithstanding the collapse of this theory after the discovery of the circulation of the blood; this therapeutics, which inflicted upon our ancestors of the last century so much purgative medicine and blood-letting, was certainly a very disastrous art. Need we recall the practice of Valsalva in treating of what was then called aneurism of the heart, that is to say, chronic endocarditis, by diet and repeated blood-lettings which had no limit except when the patient had not strength to lift his arm? This practice, as absurd as it was murderous, and which in my youth I saw still applied, had but one result, that of destroying the compensatory hypertrophy which constitutes the temporary cure of chronic endocarditis.

But if, in passing from the first half of the century, we compare the results obtained in the treatment of pneumonia by *expectation* with those given in the hospitals of Paris and of Lyon by the ordinary treatment, we find for expectation 18 per cent., and for treatment called heroic from 35 to 50 per cent. Should we not from such results conclude that therapeutics does not exist, or rather that it is a dangerous and murderous weapon? And yet such will not be our conclusion.

No, therapeutics is not a deception and the interference of physicians in the treatment of diseases, far from being a perpetual illusion, brings on frequently enough relief and cure of patients. We would not long discuss this question. It would suffice to cite the success of therapeutics in the treatment of syphilis, of intermittent fever; and the brilliant applications of serum-therapy.

But if it is incontestible that therapeutics can cure patients, and that it is not a vain science, we ought now to solve this other question: How does therapeutics cure diseases?

In former times physicians used to create a hypothesis about the cause of a disease and they pretended to cure the disease by abolishing this cause: *sublata causa, tollitur effectus*. Medication fought hand-to-hand with disease and pretended to carry it away by main force. In the present day physicians, who believe that diseases are produced by a definite microbe, teach that it is enough to destroy the microbe in order to bring about the

cure. It is easy to understand that this second theory is but a repetition of the first, rejuvenated by the modern knowledge of micro-biology. Here we have *etiological* therapeutics, or as it is called in the present day, *pathogenetic* therapeutics.

We ought first to combat these dangerous illusions. No more to-day than yesterday could the physician reach the cause of disease. The *sublata causa* is only applicable in surgery. It is necessary that we determine upon a more modest rôle which is the truth. We know that it is nature which produces her disease with the concurrence of certain causes. We now proceed to see that it is the organism which effects its cure with or without the concurrence of medicines. This is the doctrine of Hippocrates : *Natura medicatrix*.

In the actual state of opinion we ought to come back to this question : the cure of diseases is not due to the destruction of their pathogenic microbes.

We have said elsewhere the success of antiseptic surgery has misled physicians. They have believed that they can likewise make medicine aseptic, because they have not understood that the surgeon made preventive therapeutics, because he prevented the entry into the organism of an instrumental cause, the pathogenic microbe of suppuration, whereas the physician addressed himself to a disease completely formed, in a situation which does not permit of the destruction of the microbe.

And this is the first argument that we would oppose to etiological microbial therapeutics that we may combat it at this moment ; once the disease is developed it is impossible to reach and destroy the thousands of microbes which infect the organism with their toxins.

Surgeons know it so well that if, notwithstanding their antiseptics, pyæmia takes place, and that the focus whence the infection spreads cannot be directly reached, they know, I say, that all their antiseptics will be of no avail. How would you reach the bacillus of Eberth in typhoid fever and the comma-bacillus in cholera, since serum therapeutics much more powerful than antiseptics, cannot weaken the microbe of tetanus once that this disease has developed itself, and often disappoints in diphtheria when it is applied too late.

But, you will say, the patient is cured and the microbe disap-

pers. Hence, the disappearance of the microbe is the cause of the cure.

This is poor logic, and, to me; I tell you that it is the cure which is the cause of the disappearance of the microbe; that frequently even the microbe persists after the cure, as in diphtheria and phthisis. It is now commonly known that after the cure of diphtheria the bacilli of Loeffler may persist for several weeks in the mucus of the posterior throat, and some observations of phthisis cured by Davos since some years have permitted the demonstration of perfectly living tubercular bacilli in the cicatrized cavities.

If it was only a question to kill the microbe in order to cure the disease; and if this microbe was accessible to our medicines, we should have no need of antiseptics for each disease, such as corrosive sublimate for syphilis, sulphate of quinine for intermittent fever, salicylates for acute articular rheumatism; phenic acid and corrosive sublimate would have sufficed, as in surgery, for all cases.

Since the cure may be obtained, and it does not take place by the destruction of the pathogenic microbe, how is it brought about?

First, *the cure may be spontaneous*. And this spontaneous cure obtains very probably in microbial diseases by phagocytosis and a state of the humors which, for want of a better name, may be called *microbicidal*, and which is created by the organism during the course of the disease itself.

Phagocytosis cannot be invoked to explain the cure of diseases destitute of microbes. These diseases present two categories. Those which are contagious and transmissible, although they do not present microbes, as eruptive fevers, acute articular rheumatism, and syphilis; and those which are neither contagious nor inoculable, as gout and all affections connected to it: diabetes, hæmorrhoids, sclerosis of arteries, nephritis; chlorosis, all neuroses, &c.

In the first category, in infectious diseases without microbes, the spontaneous cure is brought about by a change in the organism, which begins during the course of the disease and follows it. We have proof of this change in the fact that a first attack of these diseases confers for a time, more or less long, immunity against relapses.

But our knowledge stops there, because it is impossible to

know what the modification in the solids and fluids of the body is, which effects the cure of the patient, and confers upon him immunity.

Chemical and microscopical examination has never given any information upon this point, and the organism of the patient cured of variola presents the same characters as before the disease. Let a mother conceive of a syphilitic man an infant itself syphilitic, this female may be free from syphilis, but she has acquired a privilege, she is absolutely immunized against syphilis, she is vaccinated, and yet it is impossible to state the difference in the liquids and solids of this woman before and after her immunization.

The large category of diseases which are neither contagious nor inoculable, such as gout and the neuroses, are cured spontaneously; but when they are cured, it is as a consequence of a determinate evolution, and which is proper for each disease. This happy, favorable evolution is brought about by forces which the organism disposes, but without our being able to know, as in the preceding categories, a modification, if not in the physical and chemical properties, at least, in the biological properties of the organism.

Let us now examine the cure due to therapeutics. The cure may be brought about by a medicine: remark, I pray, that it has taken place after a certain evolution of symptoms as in spontaneous cure. Since it is nature which effects the cure, it is not surprising that she does it after definite laws, and that the disease undergoes evolution under the impress of the medicine as it does in spontaneous cures. Therefore, it is those who are ignorant of pathology or who boast of etiological therapeutics who believe that it may be possible to jugulate a disease. And as we consider it important that no doubt should exist in the mind of any one upon this impossibility of jugulating diseases, we will cite the examples that have been produced in support of this thesis, and we will show that they prove nothing.

• Salicylate of soda in large doses causes to disappear the pain and the fever after twenty-four hours. Is the rheumatism jugulated? It is not even cured, because if you do not continue the medicine during two, three weeks and more, the disease reappears as strongly as the first attack.

A sufficient dose of sulphate of quinine cuts short an accession of intermittent fever, but it does not cure the disease, because if one limits himself to this one dose, the fever reappears at longer or shorter intervals according to the type of this disease.

When the diagnosis has been scientifically established, we have never observed typhoid fever cured before the 18th day, or exceptionally before the 11th day.

Pneumonia and the eruptive fevers are cyclical diseases, that is to say, they have a determinate course and duration; and, if medicines can act upon their intensity, they do not shorten their duration which is in relation to their form. If some physicians have pretended to jugulate variola it is because they addressed themselves to varioloid which, in the absence of any treatment, terminates abruptly in the first week.

We have enlarged upon this argumentation in order that it may be understood that medicine cures diseases only by the intermediation of the organism, and that this cure is brought about by an evolution analogous to that in spontaneous cure.

There are two different kinds of therapeutics: One, *etiological* or *pathogenetic* therapeutics, which rests upon the law of contraries formulated by Hippocrates,—*contraria contrariis curantur*. The other rests upon a law, also formulated by Hippocrates,—*similia similibus curantur*.

The therapeutics of contraries is that which is applied to affections from external causes, surgical affections. It attacks the chemical, mechanical, or microbial cause, and destroys it. By virtue of this axiom *sublata causa, tollitur effectus*, the cause being destroyed, the disease disappears.

It is this therapeutic doctrine, which has created in surgery antiseptics and asepsis with their marvellous results but it cannot be applied to diseases from internal causes, medical diseases. Indeed, the cause being always hypothetical it is impossible to direct our remedies to it in order to destroy it; I add that when the cause is microbial, we cannot seize the microbe which has multiplied infinitely and overrun the organism with its toxins.

"The contrary of the disease can no more be applied, because this contrary does not exist. What, in reality, is the contrary of pneumonia, of typhoid fever, and of variola? Here the word has no meaning.

Homœopathic Therapeutics. What, then, is the therapeutics which we should apply in the treatment of diseases from internal causes. It is that which rests on the one hand upon experimental materia medica and on the other upon the law of indication of which the formula is : *similia similibus curantur*.

The *Experimental materia medica* is that which is based upon the study of medicines in healthy man and in animals.

The history of medicines based partly upon practical experiments in healthy man, and partly upon numerous facts furnished by toxicology, confirmed and illuminated by experiments upon animals, constitute an exact knowledge of medicines and furnishes a picture more or less complete of artificial diseases comparable to natural diseases.

Hahnemann was the first to show the necessity of this experimental knowledge of medicines, and he was also the first who experimented upon himself and his disciples the principal medicaments of the materia medica.

Since Hahnemann, homœopathic physicians have considerably extended the boundaries of the materia medica inaugurated by their master. Other physicians have occupied themselves with physiological explanations of the actions of medicines, and, as it could have been foreseen, they have arrived at divergent and contradictory opinions which to the present day have no great utility in practice.

We have seen that the law of contraries was not applicable in the treatment of internal diseases. It is then the law of similars which ought to guide our indications.

The word *indication* is very frequently used. This is the reason why we wish to precisionize its meaning.

Indication, said Galen, is the evident necessity of a determinate action.

The evident necessity, that is to say, a necessity which leaves no room for either doubt or contradiction, of a determinate action, and not of any action whatever and which is indefinite in character.

Physicians like surgeons ought to be impressed with this definition of indication, and ought to be persuaded that caprice, fashion, even inspiration itself, only engenders illegitimate and even dangerous practice.

Is the law of similars applicable to diseases from internal

causes? Yes; because medicines produce in healthy man a totality of symptoms and lesions which constitute a medicinal disease; because this medicinal disease is more or less analogous to natural diseases, and consequently may be applied to them by virtue of the law of similars: Veratrum in cholera, corrosive sublimate in dysentery, ipecacuanha in asthma, &c.

We ought to confess that the law of similars has a paradoxical appearance. But what does it matter if clinical experience demonstrates the good effects of this method. And moreover the latest results of bacteriology in the treatment of anthrax, of rabies, of diphtheria, have proved beyond dispute the truth of the law of similars.

In what doses should medicines be prescribed? If I were not afraid of uttering a truism, I should say, in doses which will cure. These doses vary with the character of the medications.

In *palliative medication* it should always be a strong dose: if you wish to make a patient sleep give a sufficient dose of chloral; if you have to relieve a pain an injection of morphine will do it in a sufficient dose; if it is necessary to cause evacuation of the intestines it will be necessary to give a purgative or of an emetic dose.

In *curative medication*, we prescribe medicines in doses which cure. We have two guides in the choice of the dose: 1. The *materia medica*, 2. Clinical experience.

We give strong doses when the *materia medica* tells us that the medicine ought to be prescribed in large doses in order to produce an effect analogous to the symptoms observed in the patient.

Sulphate of quinine ought to be taken in large quantity in order to produce Ménière's vertigo; we give it in strong doses to combat this disease.

Digitalis in large doses produces syncope; we should give it in ponderable doses in syncope.

We, in like manner, employ large doses when clinical experience has demonstrated that it is necessary to use appreciable doses in order to obtain good effects.

We prefer likewise strong doses when it is proved that they produce as good effects as infinitesimal doses. We prefer them in order that we may approach as much as possible other physicians, and also because we can better verify whether the pharmacist has faithfully made up the prescriptions.

But there are certain cases in which infinitesimal doses are necessary. The 30th dilution of *nux vomica* has cured neuralgias against which the mother tincture was continued without effect.

We are thus eclectics in the choice of the dose. We are eclectics also in the choice of the medicine. We prescribe empirical remedies, thlaspi, acalypha, which are not in the *materia medica*. We employ physiological medicines, we practise organopathy: thyroïdine in goitre, pancreas or the liver in diabetes melitus. We equally serve ourselves with serum-therapeutics in diphtheria, tetanus, the streptococci. We are without prejudice. *We must cure, this is our object.*

INTERNATIONAL HOMŒOPATHIC CONGRESS, 1896.

(Preliminary Announcement.)

Honorary President—DR. DUDGEON.

President—DR. POPE.

Vice-President—DR. DYCE BROWN

Treasurer—DR. J. G. BLACKLEY.

General (Permanent) Secretary—DR. HUGHES,
36, Sillwood Road, Brighton.

Local Secretaries— $\left\{ \begin{array}{l} \text{DR. HAWKES,} \\ \quad 22, \text{ Abercromby Square, Liverpool.} \\ \text{MR. DUDLEY WRIGHT,} \\ \quad 55, \text{ Queen Anne Street, London, W.} \end{array} \right.$

JUST as we are going to press we learn from the General Secretary, Dr. Richard Hughes, that the dates of the meetings of the Congress, as finally settled to meet the convenience of our American Colleagues, will be as follows:—

(1.) The Congress will be held at Queen's Hall, Langham Place, London, during the week in August from Monday the 3rd to Saturday the 8th inclusive.

(2.) The Congress is open to all qualified to practise medicine in their own country; and Members will be at liberty to introduce visitors to the Meetings at their discretion.

(3.) The General Meetings will be held on the Tuesday, Wednesday, Thursday and Friday, from 2-30 to 5-30 p.m., and on the Saturday at 2 p.m. Sectional Meetings can be held in the Board-room of the London Homœopathic Hospital, Great Ormond Street (which has kindly been placed at the Congress's disposal

for the purpose) during the forenoons, as may be arranged among the Members themselves.

(4.) No papers will be read at the General Meetings. The accepted Essay will be printed and supplied to all who desire to take part in the debates on their subject matter. They will be presented at the meetings singly or in groups, according to their contents—a brief analysis of each being given from the Chair; and the points on which they treat will then be thrown open for discussion, after an appointed opener (or openers) shall have been heard.

(5.) The following is the order of business as far as is at present arranged :—

TUESDAY, AUGUST 4TH.

Address of the PRESIDENT.

Presentation of Reports from the different Countries of the World as to the History of Homœopathy therein during the last five years. Of these we have promises from Great Britain, India, Australia, and New Zealand; from Belgium and Denmark; from France, Switzerland and Portugal. We want reporters from Canada, Holland, Germany, Austria, Spain, Mexico, Italy, and the South American Republics.

Discussion.—On the Condition and Prospects of Homœopathy at the present time, and the best means of furthering its cause.

WEDNESDAY, AUGUST 5TH.

Institutes of Homœopathy and Materia Medica.

For this day we have promises of the following papers :

“Drug-selection by Sequence of Symptoms” By Dr. Ord.

“New provings of Aurum” By Dr. Burford.

“A New Posological Law” By Dr. V. Léon Simon.

“The place of Animal Extracts in Homœopathy” By Dr. Clarke.

“The Clinical Value of Tuberculin” By Dr. Cartier.

The first two and last two will probably be discussed at the General, the third at a Sectional Meeting.

THURSDAY, AUGUST 6TH.

Practical Medicine with Diseases of Eye, Ear, and Throat.

In the Ophthalmic Department we are promised a paper from Dr. Bushrod James on the treatment of Strumous Ophthalmia;

and in the Aural, two on the possibilities of Medical Treatment in Deafness, by Drs. Hayward Sen. and Cooper. These subjects will be discussed at the General Meeting, together with an American essay on some point in Clinical Medicine as yet unnamed. At a sectional Meeting in the branch Dr. Hughes will bring forward the action of Colchicum in Gout, and Dr. Oscar Hansen that of Mercury and Iodine in Syphilis.

FRIDAY, AUGUST 7TH.

Surgical and Gynæcological Therapeutics.

The only material as yet in hand for this day's discussions is an essay by Dr J. D. Hayward on "Some Experiences with Purulent Collections in the Thorax." Our American colleagues, however, have undertaken to supply two more papers on the day's topics, in which they have worked so largely and so well.

It will be seen from the above that our object is to discuss subjects rather than individual papers. Of the latter, therefore, we have no further need; but we should be very glad of additional communications on the topics already specified, and on those which will be later announced as chosen by the American Committee which is co-operating with us. All communications relating to the work of the congress should be addressed to the general Secretary. The Local Secretaries will be glad to afford information relative to accommodation, etc. In connection with this it may be mentioned that the members of the British Homœopathic Society resident in London are being invited to open their houses, where practicable, to guests from abroad.

The President will hold a Reception the Monday evening, at the Queen's Hall, for the Members of the Congress, with the ladies of their families.

February, 1896.

PHOTOGRAPHY IN COLORS.

We have received from Messrs Frederick Stearns & Co., Manufacturing Pharmacists, of Detroit, Mich. U. S. A., their Calendar for '96. The cardboard, on which the monthly Calendar sheets are stitched, has a beautiful colored picture of a vase of flowers printed on it by what is called the three color process. "It is

not a reproduction of an oil or water color painting but an example of what may be produced by photographing direct from nature. The artist simply placed a vase of flowers upon a table in front of a curtain, from which arrangement he made three photographs on plates especially prepared so that the first would absorb only the yellow, the second only the red, and the last only the blue, these being the three primary colors. From these especially prepared negatives were made etchings upon copper plates, and from these etched plates was the printing done by three impressions only. It is a remarkable fact that by the various combinations of these three simple primary colors (yellow, red and blue) can be obtained every possible variety and shade of color, and it is equally as remarkable that what can be done by this method on an ordinary printing press in three impressions could not be duplicated by the usual process of lithographing in colors on stone in less than fifteen to twenty printings."

Messrs Stearns & Co. have also sent with the Calender a leaflet containing a reprint from the *Engraver and Printer* of an article giving fuller details of the subject, which we reproduce below :

Whether in paintings or prints, it is the color which most fully meets with general appreciation. So well advanced have become the photographic processes of engraving that the proportion and detail of artistic and photographic work are reproduced with absolute accuracy. If to such reproductions are added the original colors, the nearest possible approach to the artist's original and to nature is attained.

A number of photo-mechanical processes have been successfully practiced within the past few years. These processes have been based largely upon the use of half-tone keyplates and color blocks made by transfers from the key-plate, retaining only such portions as are desired for each color. The making of the color blocks and the colors employed in printing were largely dependent upon the workmen.

Much scientific research and effort have been directed in recent years to the development of photographic processes by which the colors themselves could be reproduced from the original with absolute accuracy.

The realization of these results means that every printer can produce in his own establishment, from three-colored blocks, colored illustrations giving the accurate form and color of the original. Two courses have been pursued to solve this, the highest problem in photography—to photograph in natural colors. One occasionally sees reference to photography in colors which are based on the use of certain chemicals and processes of photographic printing. While certain results have been attained in this line, yet the variety and gradations of color are very limited.

The second course, which has been carried to successful operation, is based on the separation of the various color values, and their reproduction in colors by means of printing ink. This process is based on the use of the three primary colors, red, blue and yellow. From these colors themselves and from their various combinations and blendings can be obtained every possible variety and shade of color.

Every ordinary photographic black picture is produced by means of light by a negative on which black has not acted, upon paper that turns black when exposed to the light. By analogy, to produce a copy in yellow by the photographic color process, a negative is required on which yellow has not acted, and likewise for the production of red, a negative on which red has not acted. In short, the printing colors and those acting in their respective negatives are in opposition to one another. For the production of the color sensitive plates, it is necessary to dye the different plates with certain colors sensitive to light, which absorb the red, yellow, and blue light referred to. The successful operation of this process is based on the application of certain dyes and light filters.

One of the most wonderful features of this process is that negatives are reproduced which not only give the portions of each individual color, but also such portions as enter into combination with other colors and form the various tints of the original.

By printing the yellow and blue over one another, green is obtained. So also, yellow, red and a little blue produce brown. The striking correctness of the colors and the tints obtained by this process have awakened the enthusiastic interest of artists, publishers and the art loving public.

Photographing in colors is surely destined to exert an important influence not only on the character of illustrated works, but also upon the character of the work of the artists themselves.

Hereafter illustrations may have the same merit and completeness of any painting, and the illustrator may occupy a prominent position, his work being in the same basis as that of the painter. Not only will illustrations made by this process be far in advance of any previous attainments, but there is great opportunity and promise of better work by the artist. The full incentive and artistic influence in the work can be realised only when working in colors. Instead of endeavoring to secure the form and general effect of landscape, the artist can now turn his attention more to the coloring and atmospheric effects, which are always more artistic than simply the composition, which has alone been available in photo-engraving process in monotone.

The more one considers this process, the wonderful possibilities for it become more and more evident. In certain applications of the process it will be possible for one to make the three necessary exposures of still life or landscape, and within a short time to reproduce the subjects in its natural colors. This form of art, is the nearest approach which has ever been reached to "holding the mirror up to nature."

REVIEW.

The Diseases of the Liver : Jaundice, Gall-stones, Enlargements, Tumours, and Cancer : and their Treatment. By J. Compton Burnett, M. D. Second Revised and Enlarged Edition. Boericke & Tafel. Philadelphia. 1895.

THE first edition of this book had the rather sensational title of "the Greater Diseases of the Liver," which we are glad to see the author has dropped in this the second edition.

"Those of my readers," said the author in the preface to the first edition, "who have a taste for the more strictly doctrinal part of my subject, I would refer to my small work entitled 'Diseases of the Spleen and their Remedies Clinically Illustrated,' to which this is intended to be a companion volume."

The doctrinal part, here spoken of, consists, as he explains in the preface to the second edition, "more particularly of the theoretical considerations on the place of organopathy in the homœopathic edifice." He complains that most of his reviewers had over-looked this point, and hence he says, "my dear little bantling has not had quite fair play. It has, so to speak, been dotting about the world on one leg much to my parental concern."

Out of this parental concern he iterates with emphasis that "my stand-point in *Diseases of the Liver* is a scientific and a doctrinal one and one moreover of great practical importance, and my little book is not merely an *omnium gatherum* of hepatic odds and ends." For his justification, he has, in this edition, added *Part I* in which he has treated of what he has called *The Autonomy and Hegemony of the Organ in the Organism*.

The multiplication of technical terms is a great evil. The progress of science to a great extent necessitates and therefore to that extent justifies such multiplication. But we must try to avoid it as much as possible, and in the present instance we think Dr. Burnett would have done well to have avoided the pedantic terms autonomy and hegemony.

In this *Part I* the author has endeavoured, from the recent facts of experimental physiology and pathology, to establish the following points :—

1. That the organ in the organism does indeed possess not only autonomy but hegemony, i.e., the organ is an independent state

in itself, and in and on the organism exercises an important influence.

2. That both a plus and a minus of a given organ results in disease of the organism.

3. That the organ-to-organ homœopathy of Paracelsus is a scientific fact.

We do not think that any body has ever questioned the partial independence of the organ, and the interdependence of the organ and the organism, though it must be added that both these points are coming into more and more prominence with the progress of research in physiology, pathology, and therapeutics. We are not unwilling to accord the author due praise for introducing these facts in a work on diseases of a particular organ, in order to impress upon his readers the importance of the organ in the organism. But we must confess that for one in possession of the light of homœopathy to extol the organopathy of Paracelsus, however refined by Rademacher, as a scientific fact of the same importance with the former, is to take a retrograde step.

Dr. Burnett has explained his views about organopathy more fully in his work on "Diseases of the Spleen," than he has done here, but we regret to note he does not appear to us to be always precise in his language, or consistent with himself. Thus—"If it be asked, what is here meant by ORGANOPATHY? my reply is, that organopathy is the specific local action of drugs on particular parts or organs, as first systematized by Rademacher in the early part of this century." In the next paragraph, we are told—"In this little work the word organopathy is used as a technical term of *drug therapeutics*." Our readers cannot fail to observe that "the specific local action of drugs" cannot be the same thing as *drug therapeutics*. The one is the foundation, the other is the superstructure built upon it.

Dr. Burnett is very severe upon we believe Dr. Sharp (though he is not mentioned by name) for having copied it (the word organopathy) from Rademacher, and from the Rademacherian writers of Germany, "without a single word of acknowledgment." Though admitted to be "an otherwise able modern writer," he is stigmatized as "a literary free-booter" who has appropriated from their store house. We cannot defend Dr. Sharp for having borrowed the word without acknowledgment.

But there is a vast difference between the organopathy as developed by Dr. Sharp and the organopathy as formulated by Rademacher out of the crude and mystic ideas of Paracelsus. The one is a more precise development of homœopathy, the other is, in the author's own words, "homœopathy in the first degree," and "wants precisionizing and developing."

The author has more fully stated the true relationship of organopathy to homœopathy, thus:—

"Organopathy is *included* in the wider generalization known as homœopathy; for whereas organopathy claims only that certain drugs affect certain parts curatively, preferentially, or specifically, as, for instance, digitalis the heart (therapeutic organopathy), homœopathy claims that not only does digitalis, *e.g.*, affect the heart specifically (therapeutic organopathy), but to be curative the natural disease of the organ (nosological organopathy) must be like in expression to the therapeutic organopathy or drug action. Homœopathy may be said to be based upon organopathy, for a drug to cure the heart of its disease specifically must necessarily affect the heart in *some* manner. But the homœopath specializes, and says further: The drug that is to cure the heart must affect the heart, certainly—that is one of the foundations of our whole therapeutic edifice, but that is not enough; the nosological organopathy and the therapeutic organopathy must be and are *similar*. And inasmuch as we know disease only by its subjective and objective symptoms (its language), it follows that the two organopathies must be symptomatically alike, though possibly antipathic in their *mode* of action as against one another."

Dr. Burnett, it is true, distinctly says, "I am not maintaining that treating an organ affection by an organ remedy, after the manner of Hohenheim, Rademacher, and their respective co-doctrinaires, will stand as a medical system sufficient in itself," but he nevertheless maintains "that it is eminently workable, and is largely of the nature of elementary homœopathy, is, in fact, *specificity of seat*."

It is this workability of the Paracelsus-Rademacherian organopathy that we question, for neither Paracelsus nor Rademacher has told us how to construct this organopathy. And when we know that Rademacher, following Paracelsus, denied the disease-producing powers of all disease-curing agents, no other

method was left to him for discovering these agents than what Dr. Burnett himself calls, "the most bare-boned and law-less empiricism," which means either luck which may or may not come, or haphazard and blind experimenting upon the sick which was and still is the besetting sin of the old school. The first great merit of Hahnemann was to see the futility and the danger and the culpability of this method of procedure for the discovery of remedial agents, if method that may be called which is the negation of all method. His second and greatest merit was to point and carry out the only true method by which remedial agents may and can be discovered—the method of provings. Are we to abandon this method in order that perchance, if we are in extensive practice, we may "ascertain the true use of a remedy for an organ frequently diseased in less than four years," contenting ourselves to wait a longer period in the case of organs rarely affected? Is it wise, is it legitimate, to calculate upon such wind-falls in a matter of such urgency and responsibility as the practice of the healing art?

Such seems to be the drift of Dr. Burnett's recent teachings, as will be seen from the following extravagant praise bestowed on his favorite author: "Rademacher's work has been both ignored and criticized, but it remains classic for all time: I believe his direct art-cures of disease are unsurpassed, nay, never equalled, in the written history of medicine so far as the same is known to me." This implies that all homœopathic cures from Hahnemann downwards, including those of Dr. Burnett himself, some of which are brilliant, cannot approach in point of directness the art-cures of Rademacher. The achievements of Rademacher as a physician must have bordered on the miraculous, if, with only three universal remedies, and scarcely more than a dozen organ remedies, he could cure almost all the ills flesh is heir to. And if such was the case, why have recourse to provings at all, which are attended with so much inconvenience and suffering and even danger?

That we do not exaggerate will be evident from what Dr. Burnett himself has said: "I sometimes regret," we find him exclaiming, "that the disciples of Hahnemann and those of Rademacher became so closely assimilated, *for it seems to me that drug provings are not every thing*, and I cannot help thinking that had the Rademacherians kept by themselves, they would have taught us much of the higher physiology of the various organs that we have still to learn. And I am bound to say that some of the organ remedies of Rademacher possess a direct healing power over organ diseases that their provings in no way explain. Perhaps further knowledge will throw light on this; we must accept the fact, and wait for the explanation."

How with empirical cures of organ diseases by the so-called

organ remedies, the Rademacherians could have taught us anything of the higher physiology of the various organs, we cannot understand. If there is so much actual and potential philosophy in Rademacher's teachings, Dr. Burnett cannot render a better service to English speaking and English understanding medical men than to render Rademacher's "classic" work into English, for which no one is so fit as he.

We looked upon Dr. Burnett as an ardent apostle of the new doctrine. Has he changed his opinion since delivering his famous eloquent *Hahnemannian Lecture* before the London School of Homœopathy in 1880, in which he said: "THE HOMŒOPATHY OF HAHNEMANN HAS NOTHING WHATEVER TO DO WITH THE HOMŒOPATHIES OF THE PARACELSISTS, HERMETISTS, AND IATRO-CHEMISTS, *i.e.*, nothing whatever beyond the mere notion of healing by similars;" and in which he spoke of Hahnemann thus—"As a physician he stands exalted far above any the world has ever seen since the time of the divine Hippocrates. As a physician he was, indeed, incomparable." Has Dr. Burnett been so far carried away by his new love as to exalt a rude imitator of Hahnemann above Hahnemann himself?

How could Dr. Burnett fall in love with blind and empirical, and we might add, organopathy we cannot make out. That such organopathy cannot be of much use, because cannot be used with any reliable indications, must be evident to any one who has paid any attention to the subject, and who has had to use the so-called organopathic remedies failing with well-proved drugs of the materia medica. Dr. Burnett has himself furnished examples of this from his new master. Thus, speaking approvingly of Rademacher's use of *Chelidonium* with *Lig. Calcarie muriat.*, he says: "Our author tells us he is convinced that there exists in nature a liver disease that can only be cured by a mixture of *Chelidonium* and *Lig. Calcarie muriat.*" He then gives his formula which consists of ʒi of the tincture of the former and ʒii of the latter, of which he administered 15 drops five times a day and with which, we are told, "he could cure many cases of grave fevers and hepatic affections that did not mend with either remedy by itself, but he tells us he knows of no reliable or characteristic indications for its choice." The same must be the case with other organ remedies which have been discovered not by provings, but by mere guess and haphazard. Are we to go back from the reign of law to the reign of chance?

We will return to the subject in our next.

EDITOR'S NOTES.

Princess Topaze.

THE following account of this tiny dwarf of a princess taken from the *Scientific American*, of 11th January, which has itself quoted from the *Illustrirte Zeitung*, will prove interesting to our readers :—

She was born of normal parents in the year 1879, in the neighborhood of Paris. We are told that the great capital in which she was brought up left its mark. She charms those who go to see her, not only by her attractive appearance—for although so small, she is perfectly formed—but also by her vivacity and intelligence. She has some skill as a prestidigitator and mind reader, to which accomplishments she adds those of singing charming little songs and dancing the serpentine and other dances. She is only about 23½ inches tall and weighs only 14 pounds. She has her own gala turnout, which resembles a perfectly appointed doll's carriage.

Rapid Eating.

There is a prevalent idea that slow eating is very favourable to digestion, but this is largely fallacious. The important point is not that we eat slowly or fast, but that when we do eat we chew with energy. Of course, where the haste is due to some mental anxiety, this may injuriously inhibit the secretions. Slow eating begets a habit of simply mumbling the food without really masticating it, whilst the hurried eater is inclined to swallow his food before proper mastication. Hence, hurried eating is bad, but rapid mastication is advantageous. It concentrates our energies on the act in question, and hence more thoroughly accomplishes it. Moreover, energetic chewing stimulates the secretion of saliva in the most favourable manner. These various points are so commonly misunderstood, at least by the laity, that they demand our frequent attention.—*Journal of Mental and Nervous Disease*.—quoted in *New Eng. Med. Gaz.* for Dec. 1895.

The New Photographic Discovery.

We are in receipt of a communication from Mr. A. A. C. Swinton, who states that he has during the past week made some investigation with the view of confirming Professor Roentgen's discovery, to which we referred last week. He has obtained distinct proof that the radiations in question do pass easily through various substances that are quite opaque to ordinary light, and produce strong impressions upon ordinary photographic plates entirely encased in light-proof material. Indeed, all substances that he has so far experimented on in his laboratory appear to be transparent to these radiations, even sheets of ebonite, carbon, vulcanised fibre, copper, aluminium, and iron, though there is considerable variation in degree. He has also obtained a photograph of a human hand, which shows very distinctly the shape of the bones with their joints in several of the fingers. With confirmatory evidence like this before us from an independent investigator the possibility of the application of this discovery as an aid in medical and surgical practice is a shade nearer probability.—*The Lancet*, Jan. 18, 1896.

Crotalus Horridus.

Dr. Benjamin, in *Medical and Surgical Observations*, published in 1771, relates the following incident which led to the discovery of "rattlesnake wine." "A very wealthy old gentleman in the West Indies had long been afflicted with leprosy to an high degree, which was deemed incurable by his physicians. Apparently in a dying state he made his will, leaving a large legacy to a female servant who had lived with him many years. This circumstance being known to the servant, she and her paramour studied and contrived how to make away with him in such a manner as to raise the least suspicion. They put the heads of rattlesnakes into the wine he drank, thinking it would prove an infallible poison; on the contrary he grew better, and the criminals imagining the poison was not strong enough, added more snake-venom, whereby the gentleman was restored to perfect health. Conscience finally put his servant upon her knees before her master, confessing her crime. Forgiveness was granted, and the old gentleman gave her a small sum of money, ordering her to depart and never see him more."—*The Homœopathic Recorder*, January 15, 1896.

Metastatic Cerebellar Tumour.

In the *Boston Medical and Surgical Journal* Dr. Garceau publishes the case of a patient, a woman forty-nine years of age, who had had two years before she came under Dr. Garceau's observation a carcinomatous tumour removed from her right breast. The tumour was as big as a small apple, and the axillary glands had been slightly involved, and also removed. It is said that her vision began to be affected shortly after the operation, but her general health remained good until she suddenly began to suffer from agonising pain in the upper occipital region radiating into each eye. The pain was constant, and she could only experience relative relief by lying on the left side with the knees fixed and remaining perfectly still, as the least movement intensified the pain. Vertigo and vomiting accompanied the pain. There was no evidence of recurrence at the original seat of tumour in the breast. The pupils were equal; hearing was normal, and questions were answered intelligently and coherently, but slowly and with effort. There was marked somnolence; vision varied, being good on some days and apparently entirely absent on others, and there was found to be a marked condition of "choked disc." When she became very weak the patient had a sensation as though she were sinking into an abyss. It was concluded that a tumour was present in the cerebellum, but the patient declined operation. She lived nine weeks after the onset of the occipital pain. The vomiting was controlled by cocaine, and doses of morphia had to be given for relief of the pain. On the day before she died she had two severe convulsions affecting the right arm, leg, and face, and another fit on the day on which she died. At the necropsy a carcinomatous growth was found occupying the outer part of the right half of the cerebellum. This was held loosely in position by disintegrated cerebellar matter and among this there were several small nodules, evidently similar in structure to the

larger growth. In the cerebrum, also, two tumours were found, one posteriorly just over the cerebellar growth and one occupying the Rolandic region of the left hemisphere. The latter, no doubt, was the cause of the convulsions which occurred just before death.—*The Lancet*, Feb. 1, 1896.

Crime and the Weather.

• Is there a connection between crime and the weather? The relations between certain meteorological conditions and many diseases has been fairly well established, and more knowledge about the connection is likely to be obtained now that a department having for its object the collection of statistics referring to climate and health has been formed in the U.S. Weather Bureau. And if bodily disease is affected by atmospheric changes, why not those mental diseases which result in the perpetration of crimes? Several attempts have been made to reveal a connection between the moods and impulses of the people and the weather, and a description of the results obtained in the latest of these investigations is contained in the current number of the *American Meteorological Journal*. The investigator is Mr. C. E. Linney, Director of the Illinois State Weather Service, who has considered the police records of the city of Chicago for each month in the years 1888-1894, the total number of arrests for each month, and for each division of crime, being examined with his "weather eye" open. While it is admitted that there are some cases which seem to go against the general rule, Mr. Linney thinks that the results do show a marked increase in crime with the increase in temperature, probably daily, at least for the months, seasons, and the year. Also that there is an increase in crime with a marked deficiency in rainfall, temperature conditions remaining normal; and again a greater increase where both conditions are aggravating causes. As for humidity, there seems to be no special connection, and also little connection, with the cloudiness, except possibly a slight increase in clear, and a slight decrease in cloudy, weather. On the other hand, it is thought that the figures show a decrease in crime with a deficiency in temperature, especially during winter months, or with excess in rainfall in summer, and a greater decrease when both are restraining causes. Mr. Linney also thinks his results indicate that there is a decrease in crime with a north-east over a south-west wind. Perhaps the day will come when police stations will possess a full equipment of meteorological instruments, by reference to the readings of which police inspectors will regulate their vigilance.—*Nature*, Jan. 30, 1896.

Fatal Phenacetin Poisoning.

Krönig (*Berl. klin. Woch.*, November 18th, 1895) relates the case of a man, aged 17, who presented the general signs of probable sepsis. He was the subject of an old suppurative otitis media. The general condition of the patient, however, suggested some profound alteration in the blood, such as is not seen in cases of sepsis. An examination of the blood revealed the red cells in various stages of dissolution. Even the apparently healthy cells showed considerable changes in size.

and shape. Thus there was reason to suspect the presence of an intoxication with some blood poison. The history was that three weeks and a half before admission the patient had been given by his medical man five powders of phenacetin, each containing 1-g., with the express direction that not more than two should be taken in the day. Within three weeks he had taken four of these powders without much improvement in his condition. One evening he took another powder, and in the night he was seized with vomiting. The following day he had headache, vomiting, diarrhoea. He was somewhat cyanosed. His urine was of chocolate colour, and later contained blood. The cyanosis increased, and he died a day or two after admission. Death occurred within three days of taking the powder. The pathological diagnosis was sepsis, universal methæmoglobinæmia, swelling of the kidneys with hæmorrhages, necrosis and pigmentation of the renal cells, double hæmorrhagic basic pneumonia, chronic purulent otitis media, etc. The pathological appearances resembled those of chlorate of potassium poisoning. Occasionally phenacetin in 1-g. doses has been known to produce vertigo, ataxia, etc. Cyanosis has been noted in children. The general methæmoglobinæmia and changes in the kidney were the direct results of the intoxication with phenacetin. The rapidly fatal result was not due to the septic disease. Kronig emphasises the fact that no blame could be attached to the medical man who prescribed the 1-g. doses. This case proves, however, that these new antipyretic drugs should always be given in small doses at first, especially in exceptional cases. In the discussion A. Fraenkel, Furbringer and Gerhardt all strongly emphasised the importance of giving small doses in the first instance.—*The British Medical Journal*, Jan. 18th.

Books as Disseminators of Disease.

Mr. R. H. Sherard's notes in the *Author* are always interesting, but they do not often treat of matters that specially concern the medical profession. In the last issue of our contemporary, however, the Parisian correspondence contains the following allusion to the transmissibility of infection by means of books. "At a recent sitting of the Académie de Médecine two doctors, MM. Cazal and Catrin, declared very emphatically that the risk of contagion by the use of books which have been in the hands of persons suffering from infectious diseases is a very great one, and they described a number of experiments by which they had established the truth of this statement. One is glad to hear that the risk is greatly enhanced in the case of those objectionable persons who moisten their fingers in order to turn over the leaves." There can be no doubt that the contagion of certain disorders may be conveyed in the manner described, and that the transference of noxious germs is much facilitated when the pages of a volume are manipulated by the help of saliva-moistened digits. It is astonishing how widespread the latter practice is even among people who pride themselves on "culture." An observer has only to pay a visit to a public library if he wishes for ocular proof that fully 75 per cent. of the readers are addicted to the reprehensible habit. Among skilled artisans it is well-nigh universally prevalent, although the

manual dexterity they are bound to have acquired might be supposed to render it unnecessary. Persons whose tactile sensibility is not very acute for lack of cultivation may be excused if they find it difficult to separate the leaves of a new book, especially when the paper is thin. With such a damp finger and thumb are almost a necessity, and if small sponges saturated with some harmless antiseptic fluid and fixed in suitable receptacles could be provided for them in reading-rooms they would, no doubt, be grateful. Mr. Sherard's advice to studious people is "never to borrow books, but for each man and woman to buy his or her own copy." Were this advice followed the risk of contagion *ex libris* would unquestionably be reduced to a minimum, but we fear that MM. Cazal and Catrin's *communiqué* will not cause enough panic to relax the purse-strings of the reading public to any appreciable extent. In this connexion we may draw attention to another unseemly, but extremely common, usage, which is likewise calculated to assist in the dissemination of disease. We allude to the application of lead-pencils to the lips before use. Doubtless the danger of conveying infection in this way is not very great, because pencils for the most part are the private and exclusive property of individuals; still there are cases in which these implements are provided *pro bono* (or *malo*) *publico*. As examples we may mention telegraph offices, attendance registers, visitors' books, &c.—*The Lancet*, Jan. 18.

Tumour of the Corpus Callosum.

In the last number of *Brain* Dr. W. B. Ransome gives an account of an interesting and unusual case. A woman aged twenty-four, married for two and a half years, sought advice on account of general nervousness and fits. Her family history showed a neurotic strain and since marriage she and her husband had led a restless, pleasure seeking life, indulging freely in alcohol, although not in such quantities as to cause intoxication. The patient had never been pregnant, and there was no history of syphilis, either inherited or acquired. Her first fit occurred two years before she was seen, after a mental shock. They had subsequently occurred as often as every other day; latterly, however, only once a week. The fits were preceded by excitement and a peculiar sensation in the temples. Spasms then occurred in the left hand, consciousness was lost, and although the tongue was not bitten there was occasionally involuntary escape of urine. For six months there had been prominence of the eyes, palpitation and sweats, but no enlargement of the neck. When she was treated as an out-patient the fits ceased, but the excitement increased, so that six weeks after she was first seen she was admitted to hospital, being then in a semi-maniacal condition. There were slight general tremors, the knee-jerks were normal and there was distinct commencing optic neuritis in each eye. She improved for a month. Then she had a rise of temperature and a fit in which the left side of the mouth was drawn up, the eyes were turned to the left, and the left hand was clenched, while the left leg and arm were rigidly extended, and the former twitched occasionally. Similar fits occurred for about a week, and the optic neuritis became more distinct; but improvement

then began, she gained in weight, and the fits, and the headache and sickness which had usually succeeded the fits, also ceased. She was sent home and during the next two months her condition remained almost stationary. The optic neuritis persisted, however, and without the development of any fresh symptoms she suddenly died five months after she was first seen. On examination of the brain a tumour was found between the cerebral hemispheres, springing from the middle of the corpus callosum and bulging slightly into each lateral ventricle. It was about the size of a Tangerine orange, greyish in colour, and very soft. Its margins were well-defined, and its structure was found to be that of an oval-celled sarcoma. The rest of the brain was healthy. Dr. Ransome enters into an exhaustive discussion of the symptomatology of tumours of the corpus callosum, and, as a result of an examination of the various published cases, he gives the following indication for diagnosis of this condition: (1) gradual mental change; (2) moderate headache, vomiting and optic neuritis; (3) hemiparesis with rigidity, with or without convulsions; (4) or convulsions without paresis; (5) integrity of cranial nerves; and (6) little or no change in the tendon reflexes. But even these, he says, are by no means certain diagnostic signs. The paper concludes with an interesting and instructive discussion of the functions and relations of the corpus callosum, and a list of published cases of tumour of that body, with the prominent symptoms in each. Mental change seems to be almost the only constant one, and the character of the change varies in the different cases.—*The Lancet*, Jan. 18, 1896.

Use and Abuse of the Cigarette.

The following para. from the *British Medical Journal* (Jan. 18,) deserves to be more widely known in this country than it is. We have often inveighed against tobacco as a narcotic from which little good can be expected, but which may be productive of mischief. We quite agree with Dr. Mulhall as to the blighting effects of cigarettes upon the body of youths; and as the noxious habit is no less prevalent in India than it is in America, we earnestly entreat the fathers and guardians of school boys to leave no stone unturned to draw off young fellows from the deleterious indulgence:—

The cigarette, mild as it is—and perhaps by reason of its very mildness—is looked upon with suspicion by many who have no objection to tobacco in other forms. This is especially the case in America, where the cigarette is accused of blighting the body and soul of youths, and undermining the future hope of the Republic. Indeed, several attempts have been made to exorcise the “cigarette fiend” by legislation, but apparently without success. Is the innocent-looking cigarette so baneful a thing? On this point let us hear Dr. J. C. Mulhall, of St. Louis, who speaks as a Daniel come to judgment, being a specialist of recognised authority in diseases of the throat, and a cigarette smoker of twenty-five years’ standing. He neither curses nor blesses, but sums up the evidence impartially. He divides the cigarette smokers into two categories—those who inhale the smoke, and those who blow it out as soon as it touches the lips. The latter class—

which includes the "new woman"—may be dismissed from consideration; they are never lapped in nicotian Elysium, and pay no penalty beyond an occasional blistered tongue for their merely sentimental pleasure. All real devotees inhale, and as the smoke thus comes in contact with the mucous membrane of the windpipe and larger bronchi, the absorbent surface is, according to Dr. Mulhall's estimate, three times larger than in the case of a cigar, where the smoke is not allowed to penetrate beyond the mouth. Moreover, as two or three cigarettes can be consumed in the same time as one cigar, it is clear that more nicotine must be taken into the system by those who smoke the former. Again, cigarettes, unlike cigars, can be smoked all day long, and we know how powerful is the effect of small doses of a drug repeated at short intervals. As regards the local mischief often said to be produced by the cigarette, Dr. Mulhall, who speaks from a wide experience, denies that, "as ordinarily used, it ever causes throat disease worthy of the name." The effects in the larynx of a healthy man seem to him to be "almost *nil*." Maxwell, the murderer of Preller, was confined in St. Louis Gaol for two years, during which time he inhaled an average of forty cigarettes a day. Dr. Mulhall examined his larynx and trachea after death, but could find no evidence of morbid change "other than a fracture of the hyoid bone caused by the hangman's rope." As regards the constitutional effects, they are simply those of nicotine poisoning, and are precisely the same as those produced by tobacco in other forms. The allegation so frequently made that cigarettes are drugged with opium, cannabis indica, and other narcotics, is positively denied by Dr. Mulhall. He quotes the report of a chemist of high standing, Dr. Ledaux, who analysed several popular brands of cigarettes and found no trace of anything but nicotine in the tobacco, and a harmless quantity of cellulose in the paper. But while vindicating the cigarette from unjust aspersions, Dr. Mulhall speaks strongly as to its danger for the young, to whose unstable nervous system it is a subtle and sometimes a deadly poison. "My Lady Nicotine" in fact is often a Circe to adolescents who come under her thrall. Dr. Mulhall's recommendation that no young fellow should smoke before the age of 21 will, we fear, be regarded as a counsel of perfection, but at least schoolboys should be taught that premature indulgence in tobacco, whether in the form of cigarettes or any other, is too likely to make them grow up into mannikins rather than men.

CLINICAL RECORD.

Cases of Fevers.

By DR. BEPIN BEHARI MAITRA, M.B.

Case 1. April 11th 1884. A Hindu female, aged 52 years. Fever since a few days, every day before 11 A.M. Chill in back, aggravated by motion; chill lasting seven hours; during chill, keeps herself covered up and cannot get up; chill leaves her at 6 P.M. Heat then follows; can walk about during heat; cannot sleep during chill or heat. Sweat at 3 A.M. and then only she is able to sleep. *Cedron* 30, two doses at 4 hours' intervals, during remission. Fully cured in two days.

Case 2. December 18th 1888. A Hindu male, aged 40 years. Remittent fever, since 10 or 12 days; fever aggravates at 4 P.M. and remains so till midnight. Chill lasting one hour. Heat: thirst, pains in body, increased by movement; headache; constipation; bitter taste in mouth. During remission, all these symptoms become of a milder type. Tongue coated yellow and thick all over except at the tip. Pain on pressure over the hepatic region. Tickling cough. *Bryonia* 200, twice a day.

Dec. 19th. Decrease of the pains; slept at night; constipation continues; cough troublesome as before; afternoon accession of fever not so severe. Repeat.

Dec. 20th. Accession at 4 P.M., as usual; chill severe and lasting till midnight. Patient states that the daily accession is exactly at the same time. *Cedron* 30, twice a day.

Dec. 21st. Had slight fever yesterday; no fever this morning. Had no further accession of fever.

Case 3. April 9th 1889. A Hindu boy, six years old, had measles and was getting over it, when he began to suffer from fever. He came under my treatment when he had fever for a fortnight. Daily accession of fever at 11 A.M. or noon; no chill, no sweat, only heat; slight thirst; urine scanty and yellow; was given *Pulsatilla* with no effect. *Chelidonium* 30, twice a day.

April 10th. No fever. Repeat.

April 11th. Had slight fever last evening; urine frequent and slightly yellow; slight thirst. Sweat while asleep, and at midnight whether asleep or not. Repeat.

April 12th. No fever yesterday. Urine not so yellow as before. Cured in a few days.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

126. JATROPHA.

Constipation :

1. St. harder than usual.
2. C. with headache, pressing inward in temples, after soft st. for several days.
3. St. delayed, scanty and very hard (after proving).

Diarrhœa :

1. Soft sts. with nausea and spitting of saliva.
2. Three natural sts. a day, instead of one.
3. St. at night (unusual).
4. Soft st. at the usual time followed by rumbling.
5. Soft st, without relief of pain in abdomen, which disappeared after half an hour, with emission of much flatulence.
6. St. softer than usual, followed by pain in umbilical region.
7. Thin st. preceded and followed by rumbling, *and at times a noise as if a bottle were being emptied.*
8. Feeling of sinking and nausea in precordial region, followed by soft st.

Cholera :

1. Copious D., with watery sts., after which felt relieved.
2. Painless D. with cramp like jerkings in both calves.
3. *Watery D., as if it spurted from him.*
3. Severe purging with tenesmus. Purging of violent character.
4. *Sts. copious, mucous, not unlike the well-known rice-water sts.*
5. *Several copious purgings of mucus and water.*
6. Coldness of body, shivering and clammy sweat, with vomiting and D.

Aggravation :

1. Night.

Amelioration :

1. Pain in abdomen after passing flatus.

Before St. :

1. Rumbling. 2. Noise as if bottle were being emptied.

During St. :

1. Cramp in calves. 2. Tenesmus.
3. Nausea and spitting of saliva. 4. Rumbling.

After St. :

1. Relief. 2. No relief of pain in abdomen.
3. Pain in umbilical region. 4. Rumbling.
5. Noise if bottle were being emptied.

Rectum and Anus :

1. Violent burning in rectum after st.
2. Stitches in rectum. 3. Crawling of worms in rectum.
4. Soft hæmorrhoidal swellings. 5. Stitches in orifice of anus.
6. Violent itching in anus, at night in bed.

General Symptoms :

1. Delirium with insensibility. Anxiety with burning in stomach and coldness of body. Ill humor, even in sleep.

2. Confusion and heaviness of head. Giddiness. Violent pain pressing into temples extending to crown, disappearing in open air and returning on entering house.
3. Itching and smarting of margins of lids better after rubbing. Pupil normal or dilated.
4. Sneezing, catarrh, and discharge from nose.
5. Countenance pale and anxious. Face pale with dark rings below eyes. Lips cracked and painful during whole proving. Soreness of left corner of mouth.
6. Tongue, numb; burning, long lasting pains in. Dryness of mouth without thirst, followed by sensation as if it had been burnt. Frequent spitting of saliva, with metallic bloody taste. Inspid, nauseating taste, more decided at back of throat, without acridity or heat.
7. Sensation of heat and dryness of mouth and throat. Dryness and burning in throat.
8. Thirst, decided in evening. Eructations of air. Frequent empty eructations. Nausea and burning in stomach. *Dreads to drink on account of nausea.* Frequent, violent, copious vomiting and diarrhœa. *Easy vomiting of a large amount of watery alluminous substance, with watery diarrhœa.*
9. Pain in stomach aggravated by pressure. Burning in stomach and bowels with nausea, terminated in vomiting, then purgation followed; the sickness had then passed away but burning sensation continued. Cutting in stomach and whole abd. aggravated by pressure. Cramp like stitches in stomach.
10. Pain about umbilicus, with rumbling, emission of flatulence and desire for stool, in morning. Violent pain in umbilical region, extending into left hypochondrium and left side of chest. Violent tearing pain deep in umbilical region, aggravated by pressure.
11. Abdomen distended, tense, tympanitic. Noises as of liquids gurgling in intestines. Rumbling, empty eructations, and emission of flatulence. Pain in transverse colon. Much rumbling and desire for stool. Colic and sensation of impending diarrhœa in morning. Aching in lower portion of abdomen and inclination to stool.
12. Every attack of nausea is accompanied by spasm of neck of bladder, with drawing pain and desire to urinate. Dysuria. Renewed desire after micturition.
13. Urine, copious, watery without odor or color; increase after exertion; scanty, dark brown, clear; bright yellow, frothy.
14. Aching of genitals, as after excessive sexual intercourse, especially of right testicle, with diminished discharge of urine. Aching in left testicle.
15. Respiration quick and panting. Increased difficulty of respiration. Palpitation. Scarcely perceptible impulse. Pulse frequent, weak; slow full and soft; hard and throbbing; irregular, of normal frequency; small, thready, intermittent.
16. Muscles of extremities contracted by violent spasms. Cramps,

in hands and feet ; arms and legs. Cramplike pain in lower legs and cramp in calves which become knotted.

17. Great depression of vascular system. Extreme weariness and sleepiness. Great prostration with frequent weak pulse.

Great restlessness. More susceptible than usual to wine.

18. Drowsy, hot and feverish after vomiting. Profuse perspiration. Sweat during sleep. Very drowsy. Incessant dreams.

• **Remarks :** JATROPHA has not yet been, but may be, used in constipation when it follows diarrhœa, and is attended with headache.

JATROPHA has been used in our school for diarrhœa, though not to the extent it deserves. The stools and their accompaniments are characteristic. The stools vary from soft to choleraic. The ordinary looseness is accompanied by nausea and spitting of saliva. The graver forms are preceded, accompanied, and followed by rumbling, at times the noise of rumbling resembles the emptying of a bottle. The stools are generally painless, and spurts out from the anus. The vomitings and the purgings are often of exactly choleraic character, accompanied by intense thirst and cramps of the extremities. In spite of the intense thirst the patient dreads to drink on account of the nausea. The vomitings like the stools are painless, easy. We are inclined to think that in many cases of cholera VERATRUM ALBUM has been used where JATROPHA should have been. It deserves a more extended trial in this disease than has been given to it.

127. JUGLANS CINEREA.

Constipation :

1. C., with considerable griping in the umbilical region.
2. Bowels moved with great effort, st. hard and brown.
3. St. hard and dark brown. 4. Sts. hard and in balls.

Diarrhœa :

1. D. with cutting in abdomen. 2. D. without pain.
3. D. with burning in anus, soon after aching pain in abd.
4. D. with burning in anus before and after st.
5. Yellow frothy D., with tenesmus and burning in anus after st.
6. Full cathartic action, producing large bilious sts. without pain or griping.
7. Soft st. with pain and flatulence in abd.
8. St. soft and brown ; soft and sticky dark ; dark-brown ; small and brown.
9. St. first part hard and brown, latter part diarrhœaic and of greenish-yellow color.
10. Aching pain in abdomen after dinner ; soon after D. with burning in anus.

Aggravation :

1. Forenoon. 2. Afternoon.

Before St :

1. Burning in anus. 2. Great effort for hard st.
3. Aching pain in abdomen.

During St :

1. Cutting in abd. 2. Burning in anus.

3. Pain and flatulence in abd.

After St :

1. Burning in anus. 2. Tenesmus.

3. Aching pain in abdomen.

General Symptoms :

1. Want to be alone ; do not want to do anything but eat and sleep ; cannot think of concentrating mind upon any one subject. Absent minded, forget what I am about.
2. Vertigo, with nausea ; with sinking faint feeling in stomach extending to abdomen. Awoke in morning with headache and yellow coated tongue. Headache, with burning and smarting on passing urine, which was frequent. Aching pain in right temple. Scalp itches intensely.
3. Eyes red, swollen ; burning in eyes.
4. Dry, burning sensation of face, with erythematous redness.
5. Tongue coated, thick white or yellow. Coppery taste in mouth.
6. Throat feels sore and swollen, hurts to swallow even water. Pain in right side of fauces. Swelling in both submaxillary glands, more in right.
7. Appetite ferocious, wants to eat all time. Thirsty, wants to drink all time. Nausea, worse at night, soon after retiring. Sinking faint feeling in stomach, extending to abd. Burning in stomach.
8. Pain in each hypochondriac region. Aching pains in abdomen, with flatulence.
9. Inclination to void urine more frequently and more copiously than usual. Burning and smarting in passing urine.
10. Raising a quantity of dark-colored blood. Pain and oppression in chest. Accelerated pulse.
11. Muscles of neck rigid. Pain under right scapula, making breathing painful. Pain in left shoulder. Numb pain in right axilla, extending down arms along course of nerves.
12. Feeling of weakness and debility. Death-like feeling with chills and shuddering all over body.
13. Violent itching over whole body, in spots, changing about from place to place. Pustular eruptions on nates, hips, thighs, face, arms, front of chest, described as those of eczema.

128. JUGLANS REGIA.

Constipation :

1. St. hard, sometimes scanty, passed with great exertion.
2. Bowels confined since beginning of proving.
3. Bowels confined in morning, natural evacuation afternoon.

Diarrhoea :

1. Liquid evacuation from bowels, preceded or accompanied by pressive pain in abdomen.
2. Thin soft or liquid sts. throughout whole proving.
3. St. large, soft, at last almost thin.
4. Evacuation large, followed by burning pain and pressure in anus.

Aggravation :

1. Morning (constipation).
2. Afternoon 4 P.M. (diarrhœa).

Before St :

1. Pressive pain in abdomen.
2. Great exertion for hard st.

During St :

1. Pressive pain in abdomen.

After St :

1. Burning pain and pressure in anus.

Rectum and Anus :

1. Burning and itching in anus.
2. Sharp painful stitches in anus, so that he was frequently obliged to get out of bed, and was unable to sleep.
3. Burning itching in anus, to which he had been accustomed, became greatly aggravated, with constant scratching.
4. Sudden desire for st. with excessive fullness in abdomen.

General symptoms :

1. Excited as if intoxicated in evening in bed, and feeling as if head were floating in air. Peevish, discontented. Disinclination to talk or argue, as was customary with him ; mental indolence.
2. Head confused and heavy. Headache and flushed face.
3. Inflammation with patches of soreness of external ears. Sore eruptions on and behind ears, especially of children. Discharge of pus from both ears. When walking a feeling as if something was dropping inside of ear at every step.
4. Dull tearing toothache in hollow teeth, aggravated by warmth of bed.
5. Tongue coated white, with bitter slimy taste in mouth in morning after walking. Accumulation of saliva in mouth. Bitter taste in mouth.
6. Unusual appetite. Usually great hunger, without increased thirst. Aversion to tobacco smoking in evening. Thirst increased. Eructations and flatulence. Loud eructations. Eructations as after eating fat. Hiccough, especially violent after eating fat food.
7. Nausea at 6 A.M. and after supper. Nausea and vomiting. Woke suddenly from sleep and vomited food eaten three hours before, after which he slept again. Burning in stomach. Pressive pain in epigastric region and distension of abd.
8. Fullness in abdomen causing frequent desire for stool. Abd. full and hard, with great accumulation of flatulence. Distension of abdomen with frequent eructations, rumbling and flatulence. Flatulence especially emitted while lying.
9. Constant urging to urinate and involuntary dribbling of urine. Obligated to urinate exceedingly often and much at a time.
10. Urine, profuse ; dark red ; scanty during whole proving, clear.
11. After coition slight abrasion of skin at junction of prepuce and glans which gradually assumed the appearance of a chancre, with hard margins and lardaceous base, and bleeding readily. This healed in thirty-seven days, leaving no visible scar.

Frequent erections day and night.

12. Restless sleep with frightful dreams. Restless sleep on account of itching of the skin here and there, many dreams, and repeated erections.
13. Eruptions on face, neck, shoulders, and back consisting of small, red pimples containing a thickish fluid. Itching, or burning, or both, in various parts of the body, here and there.
14. Hot head with cold extremities.
15. Electric starts in forearms and hands wake him as he falls asleep. General exhaustion and disinclination for usual business.

Remarks: Closely allied botanically the *JUGLANS CINEREA* (Butter nut) and the *JUGLANS REGIA* (Walnut) are so very similar in their pathogenetic properties that it is scarcely possible to distinguish them. All parts of these plants seem to have medicinal action, though in the case of *J. CINEREA* the inner bark of the root, being the most active, is used; in the case *J. REGIA* the leaves and the rind of the green fruit are used. Both produce diarrhœa in their primary, and constipation in their secondary, action. In both the stools of constipation are hard and passed with great effort. In *J. CINEREA* the hard stools are stated to be in balls; in *J. REGIA* no such statement is made. The color of the hard stools is stated to be brown, even dark brown under *J. CINEREA*; not so mentioned under *J. REGIA*. In the *CINEREA* the constipation is attended with considerable griping. In *J. REGIA* the constipation is chiefly in the morning.

The diarrhœa seems to be more pronounced under *J. CINEREA* than under *J. REGIA*, at least we have more details of the former than of the latter. The characters of the diarrhœaic stools of *J. CINEREA* are yellow, greenish-yellow, brown or dark-brown; frothy, sticky; preceded, accompanied, and followed by burning of anus; sometimes unattended by pain or griping. None of these characteristics are mentioned under *J. REGIA*.

The general symptoms which we have given in detail also point to their close affinity. In both there is mental indolence, though under *J. REGIA* there is excitement as if intoxicated. In both the gastric symptoms are very similar, thick coated tongue, unusual appetite and hunger and thirst described under *Cinerea* as ferocious, patient wanting to eat and drink all the time. In both there is inclination to void urine frequently and more copiously. In both the cutaneous eruptions are similar, attended with itching and burning. In *Cinerea* only otorrhœa is mentioned.

The clinical experience of our school is confined to *J. CINEREA*. According to Dr. Neidhard "it was found curative in the diarrhœa of soldiers in camp." Dr. Hale says: "The symptoms show it to be homœopathic to *dysentery* and *bilious diarrhœa*, in which I have used it successfully in the 3rd dilution."

Gleanings from Contemporary Literature.

OBSERVATIONS ON THE PATHOLOGY OF ENLARGED OR HYPERTROPHIED PROSTATE.

By REGINALD HARRISON, F.R.C.S.,
Surgeon, St. Peter's Hospital.

IN advocating what I would speak of as the muscular theory in explanation of hypertrophy of the prostate I am not aware I ever denied that the prostate was dissociated from the genital function. I have referred to it as "a muscle containing a tolerably large proportion of glandular or secreting tissue embedded in it," and though failing to see evidence showing that it is engaged in elaborating the secretion of the testicles I adopt the view of Dr. Handfield Jones expressed in the following words: Its function relative to the sexual act is "in supplying a vehicle which enables the fecundating fluid to act with greater certainty over a larger area whilst at the same time it supplies a muscular buttress against which the ejaculatory muscles of the urethra may advantageously act in the emission of the semen." It is therefore, I believe, to this extent a compound organ, and I am not aware that anyone has brought forward arguments contravening this limitation of duality.

I regard senile enlargement of the prostate as an example of a muscular hypertrophy analogous to other similar kinds of overgrowth, and arising out of the muscular functions in which the part is unceasingly engaged. It is of the first importance that its muscular action should be clearly established for unless this can be done the whole of my argument necessarily falls to the ground. The difficulty that has hitherto arisen in fully recognising this explanation is in some measure due to the isolated manner in which the prostate has been studied.

It has been urged that though the prostate is in some measure involved in the process of micturition, the fact that it is used for this purpose half a dozen times or so in the twenty-four hours is insufficient to account for its overgrowth. This, I would emphasise, is merely the casual part the organ plays in what we generally regard as a voluntary act. Such a limited view as this implies is in a large measure due to the habit we have acquired of taking our ideas of the living organ from the condition it presents after death when removed from the body in a more or less contracted state, somewhat resembling a Spanish chestnut in shape. This is no more like the living prostate than the dead heart resembles the organ in full vigour and activity. The prostate assumes, I believe, no such appearance during life except on the rare occasions when the bladder is absolutely empty, but, on the contrary, the muscular fibres of which it is so largely composed are spread out like a funnel so as to furnish a contractile support for the bladder and its varying contents. This disposition is probably best appreciated by examination by the rectum when the patient is in the erect and semi-erect positions with the bladder empty as well as in various degrees of repletion

Though the existence of a prostate is not limited to man, I am not aware that in any animal it undergoes a change analogous to the senile enlargement observed in the human species. Hence, though enlargement of the prostate and the habit of maintaining the erect position may be mere coincidences, this fact cannot be allowed to pass unnoticed.

As the normal prostate is in this funnel-shaped manner spread out, so is it when it is enlarged. We are often surprised to find after death, or by a suprapubic incision, how much smaller the prostate turns out to be as compared with what it was when examined during its functional activity by the finger in the rectum. Under an anæsthetic an enlarged prostate usually ceases to oppose the introduction of an instrument into the bladder. Unless this continuous muscular action of the prostate in supporting the contents of the bladder in accordance with the degree required, as well as in minimising the effects of shock applied to this part of the body, are fully appreciated, it is impossible to understand how the functions of the viscus can be discharged without some other provision than that afforded by a mere fibrous floor.

It was not until I recognised the funnel-shaped manner in which during life the prostate was disposed in contradistinction to the contracted mass presented after death that I could find an explanation for certain results following different lesions of the part, as for instance in the various perineal incisions made for the removal of stone by lithotomy. Why an incision into the prostate, radiating from the urethra passing through it, and not as a rule dividing more than one-third of the solid mass presented by the dead prostate, should be followed by absolute incontinence of urine for some days seemed difficult to understand when so much of the circumference remained intact. Such a result, however, at once became intelligible when we recognised that the incision, though limited, absolutely destroyed, until repair took place, the capability of a cone shaped muscle to hold fluid.

The male bladder, in its mechanical arrangements, has little in common with that of the opposite sex. In the latter the process of micturition and the axis of urine pressure relative to the pelvic outlet are different, whilst there is an absence of provision for ejaculation of semen or even any direct connection with the genital function. In the female the manner in which the bladder is supported when distended has a resemblance to what is found in some quadrupeds.

Further, the surgery of the part furnishes evidence in various ways of the muscular power of the prostate. Thus openings may be made into the urethra in any part of its course as high up as what we term the apex of the prostate without incontinence of urine following. After lithotomy by the median operation patients often retain full control over the bladder during the whole period of their convalescence, in spite of the dilatation to which the prostate has been subjected by the introduction of the finger and the extraction of the stone. Directly, however, the knife impinges to any appreciable extent on the prostate, as in the lateral operation for stone, incontinence from that moment takes place; the patient has no command

over his urine, he can neither collect nor expel it ; and in this condition he remains until the healing process has made considerable advance. Some instances I have examined in which permanent incontinence of urine followed the operation of lateral lithotomy appeared to have been connected with the complete division of the prostatic circumference by too free an incision. I can hardly see how such a consequence as this could follow if the prostate during life presented the appearance of the contracted mass we are accustomed to look at after death.

In cases of extroversion of the bladder, in which there is no receptacle for the urine, the prostate is only met with in a rudimentary form. In advanced life, so far as I have been able to ascertain, hypertrophy never occurs in these malformations, though sexual desires are often vigorous. I have recorded the case of a boy in which incontinence of urine appeared to be associated with an arrest in the development of the prostate. This, however, may merely be a coincidence, as at this period of life this part only exists in a very rudimentary form. In an instance of removal of the prostate I performed for malignant disease, although the patient recovered completely from the operation, and lived over fourteen months afterwards during the greater portion of which time he followed an active and laborious occupation, control over the bladder was lost. To provide against the incontinence the patient was fitted with a sort of truss, which, by exercising pressure on the urethra below the arch of the pubes, enabled him to prevent the involuntary escape of urine and go about his work. Before proceeding to point out the steps by which prostatic enlargement seems to me to be brought about, I would mention one or two points which are generally admitted in connection with the natural history of his growth. In the first place there can be no doubt that though a considerable proportion of elderly males develop it, only a minority suffer from any ill-effects on the urinary apparatus it may produce. If such a growth serves no useful purpose it is difficult to understand how this can be, and why we should draw our conclusions as to the process being a morbid one from the lesser number of instances of it than the greater. It is a matter of common observation to find persons with largely hypertrophied prostates, and yet showing no other structural defect either in the capacity of the bladder to contain or to expel fully the urine for which it acts as a reservoir. Nor with proper safeguards is it necessary that persons so situated should develop any prostatic trouble calculated to shorten their lives. Another point is also worthy of notice. The process of hypertrophy involves no structural substitution or the importation of tissue foreign to the part other than those degenerations, such as the fibrous, to which the human body is liable. Hence we are narrowed down to offering an explanation as to the purpose for which this excess of normal structure is called into existence.

In studying pathological lesions, more particularly in relation to function, instances can be found in the human body where defects may call into existence such compensatory changes as eventually themselves constitute disease. A very small lesion, for instance in the mechanism of the heart,

if it happens at the right spot, is capable of producing a hypertrophy which though first compensatory, by-and-by proves to be a source of disorder. Thus the prostate in the course of its growth, so as to form a buttress or support for the most dependent portion of the bladder, tends to project in directions in which the resistance is least, and to form, by the fibrous degeneration these portions undergo, those obstructing masses with which we are familiar. Nor, though the whole gland is eventually more or less involved in the hypertrophy, can we fail to observe that in these changes the posterior segment, where it exists, is usually primarily and principally involved.

I have already laid stress on the importance of not regarding the normal prostate merely in the light of an individual organ, but as forming a part of the genito-urinary system. This holds good with its pathology. In the study of instances of enlarged prostate in the *post-mortem* room it is impossible not to be struck by the coincident changes that are taking place in the adjacent parts. For some reason or other there is a concentration of hypertrophied tissue in the form of buttresses or supports about the perpendicular axis of urine pressure at the base of the viscus. This is seen in the development of the inter-ureteral bar, the growth of the prostate, the gradual approximation and consolidation of these two structures, and the restriction of the natural trigonal area.

The trigone or floor of the bladder, in addition to being a highly sensitive part, is peculiar in that it contains the minimum amount of muscular fibre as compared with the rest of the viscus; muscle in abundance may be found as low as a transverse line drawn between the openings of the ureters marking the superior boundary of the trigone, and below in the prostate, but between these two points the power of muscular contraction can hardly be said to exist. Assuming, as I have stated, that from any cause, such as the long retention of urine, habit, position of the body, or the debility connected with advancing years, the floor of the bladder sinks lower within the pelvis relatively to the prostate, so as to offer some difficulty in expelling the last portion of urine, the effect will be frequently repeated efforts in all the muscles immediately adjacent to a part of the bladder which by reason of its connections and structure has but little power of contracting. It is suggested that in this way quantity is substituted for quality, and that as age advances structural deterioration and incapacity are in a measure provided against by superabundant tissue.

I have said that although hypertrophy usually includes the entire gland, the posterior segment or that in relation with the rectum is principally involved. When the part which was originally described by Sir Everard Home as the third lobe, but subsequently shown by Sir Henry Thompson to have no independent or isolated existence, is imperfectly or not at all developed, as is sometimes the case, it is interesting to notice that hypertrophy of the inter-ureteral bar may be observed taking place independently, and thus provision is made by a buttress of this kind for the support of the posterior wall of the bladder.

An inability to empty the bladder and the discomfort, or rather the consciousness of an incompleteness, of the act of micturition, is a common symptom in connection with the early form of prostatic enlargement. This is due, I believe, not to atony or paresis of the bladder in the ordinary acceptance of the term, but to a sinking or tendency to prolapse of the posterior wall.

Though it is difficult to demonstrate these changes after death by measurements or castings accurately representing the previous shape and relations of the part, there are signs existing during life which tend to corroborate this view. By the catheter and by examination through the rectum we are usually able to convince ourselves of this. That the bladder alters its position relative to the pelvic outlet during life there can, I think, be no doubt. In early adult existence it may be regarded as an abdominal rather than as a pelvic organ; as years advance it gradually sinks within the pelvis, whilst still later it will be found to have become further depressed within the pelvic area. In this way a prominence is sometimes given to the floor of the prostate, which is due not in the first instance to the development of more prostatic tissue, but to the subsidence of the posterior wall of the bladder. This mode of forming a prostatic bar may readily be imitated, and is, I believe, the initial lesion in the hypertrophic changes which follow.

The most important objections urged against my views as to the muscular origin of the hypertrophied prostate are based on the statement that this organ is essentially a genital gland, and that the muscular fibre it includes both intrinsic and extrinsic, is for the most part occupied in this function. This view has been supported by Mr. Joseph Griffiths, of Cambridge, and is based upon a series of observations, both in human and in comparative anatomy, which are deserving of careful consideration. Though in no way taking exception to the histology of the parts investigated, I cannot accept all the conclusions arrived at by this author relative to the disposition and function of the prostate.

As I have already pointed out, I believe we have formed a wrong conception of the arrangement of the prostate during life, and that to this is due in a large measure the difficulty we have hitherto experienced in recognising the extent and limitations of its true functions. My views are much more in accordance with those of professor Viner Ellis, who speaks of the prostate as "essentially a muscular body."

The fact, however, that the hypertrophied organ contains a considerable amount of gland tissue of an inferior quality, yielding a secretion which Mr. Griffiths refers to as "scanty, thin, and watery" as compared with the normal exudation, is in no way opposed to the views I have advanced in reference to the circumstances under which the conglomerate growth is called into existence. The degenerated character of the gland tissue is in keeping with a function which at this period of life is on the wane, and not in that state of activity which in some of the lower animals

at certain periods is attended with a large and more than usually developed gland. There can be no analogy between the large prostate of a rutting animal and that of a septuagenarian male.

Still more recently it has been put forward, in consonance, I presume, with the genital view of the function of the prostate, that the operation of complete castration is likely to prove of service in connection particularly with the treatment of the more advanced forms of prostatic obstruction. In a paper of considerable interest Dr. J. W. White, of Philadelphia, summarises the somewhat scattered evidence that exists in favour of the view that in man removal of the testes is followed by atrophy of the normal prostate, and thus remarks on the suggestion as to its practical value as a means of treatment :

"As to the possibility of employing castration as a therapeutic method in prostatic hypertrophy, I imagine that the final answer must be left to our patients. Of one thing I am convinced, however, that if we even reach a point in certainty of knowledge in this direction comparable to that already attained in regard to oophorectomy in relation to uterine fibroids, and can promise equivalent results, there will be no lack of cases willing to submit to an operation almost painless, with a low mortality, and followed by no such unpleasant conditions as accompany persistent fistulous tracts, either suprapubic or perineal, even although the operation carries with it the certainty of sacrificing whatever sexual power has survived the sufferings of such patients."

In a subsequent communication Dr. White reviews further evidence he adduces tending to show that shrinkage of the enlarged prostate has followed castration. As a contribution to the discussion which these papers elicited on this subject I narrated the particulars of a case which incidentally came under my notice some years ago, where, with the same object in view and under considerable pressure, I had divided the vasa deferentia of a man with a large and troublesome prostate. The proceeding and its effects were summed up in the following words: "This operation was readily done, first on one side and then on the other, with a tenotome at a few days' interval, and my patient left me in the course of a short time, alleging that he had already derived benefit from it. Six or seven years afterwards, when I was in America, I ascertained that he was alive and well, but as I had no opportunity of testing the case I thought nothing further of it until reading Dr. White's interesting lecture."

From a recent paper by Dr. Ewing Mears it seems not unlikely that interference with other constituents of the spermatic cord may be found to lead to atrophy in the prostate by first inducing changes in the nutrition of the testicle. Dr. Mears more particularly refers to subcutaneous ligature of the vessels of the cord for varicocele, in which he has noticed more or less atrophy of the testes following. The accidental division of a vas deferens under somewhat similar circumstances has also resulted in a like consequence. These are observations which I think other surgeons can corroborate.

rate. I refer to these collateral points requiring further consideration and testing, but without in any way wishing to detract from the credit due to Dr. White in first bringing this matter forward.

Shrinkage of the prostate has followed other measures than castration. Some years ago I published the particulars of a case in which for this condition in its most advanced and distressing form I punctured the bladder from the perineum through the enlarged prostate and retained the cannula in this position for six weeks. This process has since been described as tunnelling the prostate. In the instance referred to the patient not only entirely recovered his power of normal micturition, but on the removal of the cannula it was discovered that the prostate had undergone a diminution in size, in fact, it had almost returned to its natural shape. This patient died at the age of 90, eight years after the operation, without any recurrence of his ailment or the necessity for again using a catheter.

Mr. Teale, of Leeds, has recently added testimony as to the value of physiological rest and the importation of some amount of scar tissue into the prostate in bringing about its shrinkage. In former days, when lateral lithotomy was more generally practised than now, I have seen in several instances where it has been necessary to divide a large prostate with some freedom to permit of the withdrawal of the stone, atrophy of the gland follow, and prostatic symptoms cease. More recently I have observed the same effects after a prostatotomy for bladder drainage, and in instances where comparatively small portions of the prostate have been removed.*

Assuming, on the evidence of some cases which have been recently recorded, that shrinkage of the prostate follows upon castration, I do not see that such a conclusion is either at variance with the views I have advanced relative to its pathology when enlarged, or proves it to be essentially—that is to say, exclusively—a genital gland. That it secretes in association with the genital act no one, I think, will deny. That some atrophy must follow the extinction of this function by removing the testicles is equally clear and logical.

My object in this paper is to show : (1) That the prostate in connection with its associated parts has an arrangement and muscular function which are not sufficiently recognised ; (2) that its hypertrophy is to be regarded as a provision against structural dilapidations in adjacent parts, arising for the most part out of senile degenerations ; (3) that these changes are mainly compensatory, whilst in others they are excessive and hurtful ; (4) that in the latter respects it resembles other provisional hypertrophies.—*British Medical Journal*, Dec. 28, 1895.

OUR FUTURE SOURCES OF DRUG PATHOGENESY.*

By ELDRIDGE C. PRICE, M.D., BALTIMORE, M.D.

From what class of provers shall we secure our future drug pathogenesies?

This is a significant question, and its solution involves more than is obvious at first survey.

It is usually taught that our provers of drugs should be in perfect health or, in a condition as near perfect health as possible; but when we come to examine into the health status of those who have contributed to our tens of thousands of symptoms as recorded in our many works or the subject, what do we find? We find the greater number of the experimenters to have been persons of whose normal health condition little or nothing was known, or persons who were obviously in poor health, and who could not lay claims to even approximately perfect health.

Here, then, we have what may be regarded as a deplorable state of affairs. We are claiming that for a properly constructed symptomatology healthy provers are a necessity, and in the face of this admission we are accepting and using a symptomatology, which we call a pathogenetic symptomatology, made by experimenters not one-tenth of whom are in even approximate good health.

What significance has this state of affairs? It means either, that a perfectly healthy human being is a *rara avis* and can not be laid under contribution to the science of drug pathogenesis, or that the profession is not convinced that it is necessary to secure our symptomatology from effects of drugs upon healthy individuals, and is therefore careless of the sources of the symptomatology, or finally, that symptoms derived from experimenters who are not in good health are as important and of a value equal with the symptoms obtained from healthy experimenters. Which of these three positions is correct?

Is it possible to find a sufficient number of perfectly healthy human beings in this world to make one good drug proving? We answer almost unhesitatingly. No. The human race has inherited from too many ancestors the results of sin against the laws of nature, for too many thousands of years, to still preserve many perfectly healthy individuals. It is cause for wonder if even a few such highly favored men and women can be found. Medicine is a science upon which a practical art is based, the art of healing the sick, or it is nothing. When this practical character of therapeutics is lost, then will be time for the physician to abdicate the throne he now occupies in favor of the surgeon; drugs will have no place in the armamentarium of the healer of the sick, but will properly be relegated to the uses of that great class of practical psychologists, the advertising quack.

However, drugs do cause definite results when prescribed in disease, and there is, even with the meagre knowledge of the present day, a possibility of the physician acquiring more or less therapeutic pre-visional power, and this power results from a knowledge of what drugs have done in the past, sometimes when prescribed in disease, sometimes when given to the

lower animals, sometimes when given to the approximately healthy for the purpose of deliberate experimentation, and sometimes when given to the deranged in health for the purpose of discovering what additional deviations they will cause from the normal conditions of such individuals. Such, therefore, are the sources of our knowledge of the uses of drugs as healing agents. Let us examine into the relative value of information received from these various sources.

First, we will consider the evidences of drug results obtained from the lower animals. Very little need be said on this point, when we take into consideration the fact that the lower animals (dogs and rabbits being most frequently used for experimentation), are not perfect physical analogues of the human being, and further, that drugs do not act with equal intensity upon all the animal groups, some agents which produce disastrous effects in man having no action whatever upon dogs or rabbits. Consequently, while experiments upon the lower animals may have a certain corroborative value, yet they can not be accepted as equivalent to experiments upon the human being, and therefore the knowledge of drug effects obtained from animals *per se* must always form a source of information of minor importance.

Second, of what value may we regard knowledge gleaned from observations of the effects of agents administered to the sick?

Herein we have reached bed rock, so to speak, the corner stone of the medicine of experience, upon which the medical world depended almost entirely until the time of Hahnemann, and upon which many practitioners still rest with much confidence. The results of experience are ignored only by the foolish, and until the idea was suggested that it might be possible to learn something of what drugs will do when given to human beings for other than curative purposes (in fine to ascertain what deviation from the normal health status of the individual they were capable of producing, a knowledge of which deviation might be applied to the healing of the sick), until this idea was suggested there was no other guide for the physician than personal experience. The medicine of experience therefore was given the confidence of the wisest medical men as the surest and safest guide in the healing of the sick. When, however, as I have said, the suggestion that possibly we might learn something of what drugs could do in case of sickness, through experiments outside of the sick room, another and entirely divergent system of medicine was inaugurated; the medicine of science, or to speak more accurately, an approximately scientific system of medicine through which gleamed the heretofore unrealized possibility of a *a priori* prediction of a curative relationship between pathogenetic drug symptomatology and natural pathological symptomatology. Such ideas were not grasped at once by the grosser type of mind, as might easily have been predicted, and it is only comparatively recently that the great system of medicine, homœopathy, which has been an outgrowth of the fundamental idea of drug and disease relationship, has numbered among its believers more than a handful of the best thinkers in the medical profession.

This brings us to the third source of our symptomatologies; supposed

drug effects obtained from deliberate experiments upon the approximately healthy. From this class of individuals a large percentage of the symptoms used at the bedside are derived, probably the largest number.

Finally, there are a few symptoms recorded which are supposed to have been obtained from perfectly healthy persons who have experimented for the purpose of securing drug symptoms. This is the smallest class of our symptoms.

Before considering the subject further, it should be stated that I am discussing this question of pathogenesis sources from a presumptive scientific stand-point, and consequently if we wish to prescribe drugs upon indications which are reliable from this stand-point, we can not accept experiments upon the lower animals as productive of deviations from health the similitum of which may with certainty be found in the human being. We must look to experiments upon human beings as the source or sources from which reliable drug effects are to be drawn. As a result we are limited first, to those observations made during the use of drugs in sickness, as to results whether beneficial or otherwise, second, to those experiments made upon the approximately healthy (whether accidental or deliberate, whether from poisoning or proving), and third, to those experiments made with drugs upon the perfectly healthy.

We have already seen that clinical observations of drug effects are productive almost entirely of individual experience, and must be regarded in the light of opportunities for verifying the predictions made of the applicability of agents which are used in accordance with some therapeutic law; the patient not being in condition to develop symptoms of drug action uncomplicated with the malady from which he is at the time suffering. Of course all reasonable physicians recognize the value of clinical experience, and even in our school the medicine of experience is daily called upon to assist the practitioner in relieving the sick, but in this field we do not find opportunity to develop therapeutic principles; and hence we are driven for our reliable sources of drug pathogenesis to the remaining classes of *approximately* healthy and *perfectly* healthy experiments.

In the earlier part of my remarks I asserted that there were few if any perfectly healthy persons, and I do not think it is necessary to adduce positive proof of this assertion, simply because to the thoughtful, observant physician it is an obvious fact. Our choice of sources of drug pathogenesis is therefore narrowed down to this one class of approximately healthy experimenters. The approximately healthy man, woman and child must therefore be regarded as the instruments from which we are in the future to draw our information relative to pathogenetic drug effects.

The question now to be considered is, what constitutes approximate health? Approximate health is obviously a condition which approaches perfect health to a greater or less degree. It is that border land between perfect organic and functional integrity and a recognizable deviation from this much desired state, in which the large majority of the human race live and have their being. Perfect health is only possible when all the

laws of our being are observed, and when at the same time our constitutional strength has not been weakened and our mind or body tainted by an impure heredity. In the first place, then, the question of heredity plays an important part in the question of perfect health, and in the second place our habits of life, to say nothing of our vices, enter into the problem as important factors. The individual who persistently over-works, can not be said to be in perfect health ; the individual who does not take a sufficient amount of rest and sleep can not be said to be in perfect healthful equilibrium ; he who constantly uses condiments, e. g., capsicum, mustard, acetic acid in the form of vinegar, or who drinks habitually any substance which has the power to cause disturbances in a normal human economy, as coffee, tea, or alcohol in any form, besides the user of tobacco, or any other drug ; all these are merely approximately healthy. It must now be obvious to all that if we wish to prove drugs we must select the material at hand, the representatives of the human race as we find them, and not expect to find perfectly healthy experimenters ; they are simply ideal.

It may occur to you all that I am advocating the acceptance of provings made by tobacco users, imbibers of alcohol, and users generally of drug substances, and also those who are subject to all kinds of vicious practices and excesses of all kinds. Yes, that is just what I am doing ; but under certain conditions, and those conditions are that provings made by all persons be classified, e. g., the provings of all tobacco users to be grouped together, those of all habitual users of spices and condiments generally to be kept separate from the abstemious, while the alcohol imbibers shall have a group specially dedicated to them. This should have been done long ago, for it is in this way we can discover the drugs best suited to the various classes to which I have referred, when we meet them in practice.

Again, how far below the standards of normal health may the experimenter have dropped and yet be considered as eligible to drug experimentation ?

Since there are so few fast and hard lines to be discovered in evolution of all kinds, so in this instance it is no easy task to decide the question. I would, however, suggest that all individuals may be regarded as eligible to drug experimentation who are not sufficiently disabled by the deviation from health to be compelled to abandon their usual mode of life, or who are not compelled to use drug substances to remove the disability. With these cases classification also becomes necessary, e. g., the experimenter who is suffering from some derangement of the mucous membrane should not be classed with the experimenter who has bone disease, nor should the prover afflicted with renal derangement be grouped with the purely neurasthenic, the skin or circulatory disease individual.

It seems to me we have by this suggestion of classification the key to this pathogenetic riddle which has puzzled materia medicists since the days of Hahnemann. By such classification we avoid the charge of attempting to pass upon the unsuspecting profession questionable drug symptomatology for pure pathogenetic drug effects.

It does not seem necessary for me to dwell at length upon the advantages to be derived from such a classified symptomatology. Among the many advantages would be the final settlement of the dispute over which are and which are not pure pathogenetic symptoms. Few are purely pathogenetic for reasons I have suggested, but the most nearly purely pathogenetic details would all find classification together, and those who desire need use none other than this group of symptoms, while those who desire have at their hand symptoms of all grades down to those from experimenters who are positively organically diseased.

There is another point, however, to which I would call attention before concluding, and it is the necessity for the preliminary health record which is just as imperative with the method of classification as it is in the old haphazard ways of testing drugs. As I have often insisted, it is not possible to understand the deviations from the individual's normal line of health unless we first know something about the line of health itself; therefore the preliminary health record still continues to be just as necessary in our work of future provings as it has been in the past. I hope, however, in the future it will not be conspicuous by its absence as it has been in the past, but that it will be conspicuous by its invariable presence in all experiments with drugs, and I trust that this method of classification will also be the method by which our future pathogenists will secure their pathogenetic symptomatology. If such strictly critical methods of work be adopted we need not fear the consequences, even if our sources of drug pathogenesis are almost entirely the approximately healthy; for it is to be remembered that the perfectly healthy drug prover is almost ideal, while the approximately healthy we have with us always, are always available, and upon them has depended the success of homœopathy in the past, and from them will still be derived the knowledge upon which will depend the successes of homœopathy in the future.—*Southern Journal of Homœopathy*, Dec. 1895.

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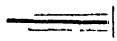
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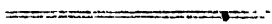
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MEDICINE

VOL. XV.] **March. 1896.** [NO. 3.

A COURSE OF CLINICAL THERAPEUTICS.

BY DR. P. JOUSSET.

Lecture II.*

SUMMARY : Jaundice, treatment. Influenza with pneumonia.—Acute articular rheumatism. Sulphate of quinine.—Rheumatic endocarditis. Measles. Aconite, mother tincture.—Broncho-pneumonia. Ipecacuanha and Bryonia.—Arterial sclerosis.

In bed Number 1 of the male ward is a child, 13½ years old, attacked with jaundice and painful enlargement of the liver. It was for the cause of this painful enlargement that the physician who preceded me had prescribed *China* 3x trit. grme. 0. 25. When I took charge of the hospital he was better, he had no more vomiting. I prescribed for him *Nux vomica* 6, 10 drops, and put him on milk diet.

Under this treatment the appetite and the vitality returned, the patient commenced to eat; but eight days after this appearance of cure, he was taken ill with slight fever, loss of appetite, and pains in the liver which was still notably enlarged.

Milk diet and *venom of the viper* 3 trit. brought on reduction of the liver to its normal size and a complete cure.

China was prescribed for the cause of the pain and of the enlargement of the liver, *Nux vom.* was indicated by the complete anorexia, and the *venom of the viper* by the persistence of the

* *L'Art Medical*, Janvier 1896.

enlargement and also by the analogy of its action with that of *Lachesis* which is classic in the treatment of enlargements of the liver.

Severe Influenza with massive pneumonia ; general broncho-pneumonia ; suspected tuberculosis.—This patient, who is already in the wards since 9th Nov. 1895, had presented from the beginning a very grave condition : double broncho-pneumonia, high temperature with oscillations as in influenza and in phthisis ; then in the last days of November violent pain in the right side ; dyspnœa ; absolute dulness, absence of thoracic movements and respiratory sounds.

This group of symptoms led one to think of the existence of a pleuritic effusion ; but two explorative punctures, made at an interval of twenty-four hours, enabled us to decide the absolute want of effusion, and hence the diagnosis was made of massive pneumonia.

This lesion which has been called spleno-pneumonia, disease of Grancher, has been often observed in Influenza. It presents two constant signs : absolute dulness and suppression of thoracic movements ; and some variable signs : bronchial respiration soft or harsh alternating with absolute silence ; aphonic pectoriloquy ; fine, superficial, small crepitations during inspiration and expiration. When the patient gets well, the bronchial respiration, if it had existed, disappears, the resonance comes back, and the vesicular murmur returns progressively.

This patient was treated with the following medicines :

At first *Bryonia* and *Phosphorus* in the 12th dilution alternated ; these two medicines reduced the fever in forty-eight hours. But the temperature rising again to 40°, *Bryonia* mother tincture 20 drops, was alternated with *Aconite* mother tincture 30 drops for six days. Again there was amelioration, there being no fever for twenty-four hours. The expectoration being purulent and very abundant *Hepar sulphuris* 2 trituration was prescribed. But the temperature rising again and the state of the patient becoming aggravated, we prescribed successively *Bryo.* 6 and *Phosph.* 6, then *Ipecac.* 6 and *Bryo.* 6, and last of all *Taratr. emetic.*

These medicines were without effect, the febrile movement presented great variations, the temperature being 40° in the evening and 38°.5 in the morning. I prescribed Sulphate of Quinine

in doses of 1 gramme (15½ grains) in the morning for several days. During the rest of the day the patient had *Bryonia* mother tincture 10 drops and *Ipecacuanha* grme. 0. 15, 1st trituration, in alternation.

Under this treatment notable amelioration manifested itself; the temperature came down to 39° in the evening, the sub-crepitant rales diminished in the left side and in the right at the place which was occupied by pneumonia. The respiratory sound became audible, and afterwards the vesicular murmur itself.

At the same time there was amelioration in the general condition, the patient felt better, stronger, and commenced to eat.

And yet the state of the patient remained very alarming; the fever though diminished persisted, and from time to time there supervened fresh accessions of broncho-pneumonia with violent pain in the side, great oppression; unexpected elevation of temperature. We shall certainly have to speak to you again of this patient.

Here is a case of *acute* articular rheumatism which merits all our attention.

M. M.—, aged 19, is in the Saint-Jacques hospital since the 3rd November 1895, and has been occupying bed number 5.

This patient has had already an attack of acute articular rheumatism in the last year. This very mild attack lasted only eight days. We do not know what treatment he had followed at this time.

This patient presents a rheumatism affecting all the large joints with a remittent febrile movement presenting a temperature of 38° in the morning and of 39° in the evening. The pains are very strong, and the arthritis shift with great facility.

From the 4th to the 11th November this patient had taken Sulphate of Quinine in doses of grme. 0. 30 daily. The febrile movement had a little diminished under the influence of this medicine.

From the 13th to the 19th November we augmented the dose of Sulphate of Quinine, and the patient took of it grme. 0. 40 per day. But the pains were always very violent and we prescribed successively *Rhus toxicodendron*, *Bryonia* (1 dec.), then *China* mother tincture on the 25th, 26th, and 27th. At last for the extreme variableness of the pains, from the 28th, he was ordered *Viola odorata*.

When I took charge on the 1st December, the patient had an intense febrile movement. Most of the joints were swollen and painful. There existed a soft bruit de souffle at the base of the pulmonary orifice. I prescribed Sulphate of Quinine 1 gramme in 4 packets to be taken in the day.

Under the influence of this medication the fever fell completely. On the 2nd the patient still took 1 gramme of the medicine; on the 3rd, 4th, 5th he took only grme. 0. 50. The pains diminished rapidly and the patient became convalescent.

To conclude with his pathological history: three weeks after the patient was attacked with arthritis of the metacarpo-phalangeal articulation of the left index finger; the articulation became red, swollen, painful, but there was no fever. I prescribed *China* 1st trit., grme. 0. 20. At the end of three days there was no more relapse.

You have no doubt asked yourselves the question, why was not Salicylate of Soda in large doses prescribed for this patient?

We do not employ this medicine for two reasons. First, that it is dangerous and that there are a number of cases in which the death of the patient ought to be attributed to its use, and that it is repugnant to me to interfere, in a disease which has a tendency to terminate in cure, with a medication which counts deaths, in however small a number, as its result.

The second reason which prevents me from prescribing the salicylate is that this medicament, although it calms the pains and subdues the fever very rapidly, must be continued for several days unless one wants to see the disease recommence.

In the female ward we have a patient attacked with mitral insufficiency and who, notwithstanding the Salicylate of Soda, had suffered for eight months from acute articular rheumatism at the Necker hospital.

Sulphate of Quinine does not expose to the same accidents as Salicylate of Soda prescribed in the enormous dose of 3 grammes per day does. Here 1 gramme (of the Quinine) has sufficed to arrest the fever and bring on cure in two or three days.

Remember that Sulphate of Quinine is indicated in the treatment of rheumatism whenever the fever is remittent. When the type of fever is continued, the two principal medicaments are *Aconite* and *Bryonia*.

I recall to your mind that this rheumatism presents a blowing murmur, but its seat at the base, at the orifice of the pulmonary artery, its existence at the first stage, and its very soft character have led us to look upon it as a murmur due to anæmia, and not as one due to a rheumatic endocarditis.

Rheumatic endocarditis is a complication of extreme gravity. It may bring on death of the patient in the acute stage, and if it cannot be entirely cured, the patient becomes attacked with chronic endocarditis with which he may live for years but which more frequently determines a premature death.

It was formerly taught that the beginning of endocarditis was announced by three symptoms: augmentation of the febrile movement, pain, and lastly the blowing murmur.

The teaching of Prof. Potain differs in several respects from this classic teaching. According to this Professor endocarditis may be absolutely latent: the blowing murmur does not exist in the beginning. What have been described as such are inorganic bruits, extracardiac bruits occurring in the lungs. The variable sign of commencing endocarditis is a change in the timbre (character, quality) of the normal sounds, the sounds are smothered, harsh, and it is only later when the lesion is definitive, that true blowing murmurs are heard.

Prof. Potain gives the following rules for distinguishing inorganic from organic bruits.

The inorganic bruits are soft, superficial without prolongation, corresponding in part only to the systole or the diastole, not seated exactly at the apex or at the base of the heart as the organic bruits. In short, these cardio-pulmonary bruits are inconstant and may disappear by change of position.

This theory is highly questionable.

With Peter and Jaccoud we have several times ascertained the appearance of the existence of rheumatic endocarditis, and these bruits were not cardio-pulmonary, because in patients who have not been completely cured these bruits persist and characterize chronic endocarditis.

You see in the small male ward six young boys attacked with measles. In all the disease was regular and the termination favorable. The temperature, after maintaining itself for three or four days at about 40° , fell suddenly to 36.5° as you can see

in all the temperature charts. A few continued to cough for some days and presented a certain degree of bronchitis, but all were rapidly cured from the seventh to the ninth day of the disease.

Since the last month already a dozen similar cases have come in to the ward without having ever presented any grave complication. Nevertheless the prevailing epidemic is not absolutely benign, and moreover the municipal statistics recorded 25 deaths from measles in the last week.

I add that since we are at Vaugirard, the institution of Saint-Nicholas has sent us a great number of cases of measles and that we have not lost a single patient out of that number. I am willing to admit that this result was due to the benignity of the cases which were sent to us, but it is but justice to attribute to the medication a certain influence in bringing about these constantly happy results.

The treatment consisted in the administration of 10 drops of the mother tincture of *Aconite* in 200 grammes of water, a spoonful of which was given every hour to all patients who had a high temperature without complications.

Some patients who had a certain degree of bronchitis were treated with *Ipecac.* 6 and *Bryonia* 6 alternated every two hours. I cannot too much recommend to you this very efficacious medication in the treatment of broncho-pneumonia, and that it is rarely necessary to replace it, according to indications, by *Pulsatilla*, *Carbo vegetabilis*, and *Arsenic*.

I have not spoken to you this evening of patients in the female ward. Time has not permitted us to do this. One word upon a number of females attacked with *arterio-sclerosis*, each presenting a particular type.

In bed number 1 of the small ward you will find an old woman of seventy presenting symptoms of *chronic Aortitis* without valvular lesion, the dominant affection in this patient is arteritis of the right Sylvian. Already twice she had presented sudden attacks of loss of consciousness with convulsive movements of the left arm, followed by incomplete paralysis which disappeared at the end of some days. This patient took *Jodide of Sodium* in doses of 10 centigrammes daily, and when she was threatened with attacks I prescribed for her *Nux vom.* 6.

In bed number 11 of the large ward there was a woman of sixty attacked with arterio-sclerosis.

This woman was brought to the hospital in the month of September, presenting dyspnœa and œdema of the legs. Under the influence of *Thyroidine* in the 3rd decimal dilution there was profuse diuresis, great diminution of dyspnœa, and the patient went away at the end of a month believing she was completely cured.

This patient came back to the hospital at the end of November, all her sufferings having returned by reason of a rheumatic attack. This is the state she presented on the 1st of December: very marked dyspnœa, hypertrophy of the heart, its apex beat at the 6th intercostal space. There did not exist a murmur at the orifices, but the second aortic sound was extremely accentuated. There existed marked œdema of the inferior extremities and of the left arm. The patient passed urine from 400 to 600 grammes in twenty-four hours. There was a certain degree of bronchitis with large rales, stertorous and sibilant.

Thyroidine, administered as before, was without result. Milk diet and digitaline in the 3rd decimal dilution in doses of 30 drops produced a diuresis which is continuing, the quantity of urine reaching 1500 grammes to 2 litres in 25 hours. She was then placed under the use of *Iodide of Sodium* in doses of 10 centigrammes per day.

Under this treatment the urine continued profuse, the œdema disappeared completely and the patient found herself very much better.

It was during this improvement that she was taken suddenly ill with all the symptoms of abundant cerebral hæmorrhage and complete loss of consciousness. The eyes were congested on the left side. There existed a complete hemiplegia of the right side. The pulse was almost imperceptible, although the beats of the heart were tumultuous. Notwithstanding the alternation of *Belladonna* and *Arsenic* in the 6th dilution the patient succumbed on the third day.

In bed number 13 of the same ward is a woman aged 66. This woman said she was ill only six months. She presented the following state: The arteries were hard and tortuous, the heart en-

larged, the beats arhythmic with reduplication of the second aortic sound. The urine was sufficient. There was no œdema.

This patient complained of fits of palpitation seated in the abdomen and coming on especially after meals.

The examination of this region enabled us to ascertain dilatation of the abdominal aorta. This aneurismal dilatation was the seat of the frequent palpitations. The patient was put on the use of *Iodide of Sodium* grme. 0. 10 per day.

I need not recall to your mind that the history of arteriosclerosis is entirely recent, that it was commenced by Jean- Paul Tessier, who was the first in 1859 to describe chronic aortitis on the basis of the autopsies of Dupuytren and of Marshal Saint-Arnaud. This authoritative description has been completed by M. Huchard who has demonstrated the role of chronic arteritis not only in the aorta but in the coronary arteries of the heart ; in the arterial system of the kidneys, of the liver, of the brain, and of the lungs. It is also this physician who has extolled the *Iodide of Sodium* as the therapeutic agent in this lesion.*

* The *Iodide of Potassium*, recommended by our distinguished countryman, the late Dr. Soorjee Goodeve Chuckerbutty, is found equally efficacious—EDITOR, *Cal. J. Med.*

THE SOURCES OF WATER SUPPLY; AND THE
ALARMING INCREASE OF SCARCITY
OF WATER IN BENGAL.

IN the present distressed condition of Bengal on account of the scarcity of drinking water, the very useful paper on "Water and Health" of Dr. Charles Platt, Professor of Chemistry in the Philadelphia Hahnemann Medical College, published in the *Hahnemannian Monthly* of January last, deserves an attentive perusal. Its chief recommendation lies in the fact, that it does not treat of ambitious and expensive schemes of public water supply but of simple means of procuring pure water in villages and small towns, where poverty prevents the outlay of large sums of money for the purpose.

Chemically, WATER has a definite composition, and therefore pure water can only mean a compound of Hydrogen and Oxygen in the proportion of 2 parts of the former to 15.96 of the latter by weight, or very nearly of 2 volumes of the former to 1 volume of the latter. But from its remarkable and important property of being almost a universal solvent, capable of dissolving a very large number of substances, solid, liquid and gaseous, it is seldom if ever found in a state of purity in nature. The fact of its being an essential constituent of all living beings, vegetable and animal, has invested it with peculiar interest. And accordingly in all ages and in all countries it has been looked upon as a sacred thing. In our own country it is looked upon as a form of Vishnu himself, the preserver of the universe. Hence, especially by the Hindus, the pollution of sources of water is considered as a great sin.

•When it is remembered that water forms more than half the weight of the human body (nearly 60 per cent.), that the remaining 40 per cent. constituting the solids can be introduced into the body only in a state of solution in water, that all the tissues even the hardest must have water as an essential constituent,—the enamel of the teeth having 2 per 1000, fat 209, the liver 693, the spinal cord 697, the skin 720, the brain 750, the muscles 757, the spleen 758, the thymus 770, the nerves 780, the heart 792, the kidneys 827,—it will be seen how the instinct of our race has guided it in its early days in forming a true estimate of the importance of this universal agent.

The fact, that the maintenance of the purity of water is enjoined as a religious duty among all nations, shows both the strength and the unerring character of that instinct. But in the absence of intelligible reasons which could only be assigned by knowledge, the injunction could not be carried out in the fullest measure by the ignorant majority. And even in the present day when science has made plain how water is easily liable to pollution, and how this pollution is the fertile source of disease, the sanitarian has to encounter opposition from ignorance of the most lamentable description. Dr. Platt states but a fact when he says : "It would be difficult to cite an instance when the struggle against an unpleasant truth is more determined. People will use poisoned or dangerous supplies in face of the most earnest advice to the contrary and in face even of family deaths. We are told that 'our family have used that well from time immemorial, what was good enough for my grand father is quite good enough for me,' or, 'the water is sparkling and clear, and cannot possibly be contaminated,' or, 'that well has given good water so many years that I guess it will continue to do so awhile longer,' and so on. The water is supposed to remain the same whatever the change in conditions, and the only criterions of purity are the color and the taste, neither of value."

If such is the case in the enlightened countries of Europe and America, it is useless to fret at similar ignorance in this country. As sanitarians it should be our duty to enlighten the masses, and do our best to maintain as much as we can the purity of all the available sources of our water supplies. These, it is easy to see, and as Dr. Platt has pointed out, are reducible to four classes : —1. rain water ; 2. surface waters ; 3. sub-soil or ground water ; and 4. deep-seated or phreatic waters—the first being the ultimate source of the three others. On each of these Dr. Platt has made valuable remarks which we present in a condensed form in the following paragraphs :

The rain as it falls from the clouds dissolves certain gases existing in the atmosphere, and also removes from it certain floating solid bodies. The condition in which it reaches the surface of the earth is dependent upon the condition of the air through which it has passed ; in rural districts it is comparatively pure, while in the cities and manufacturing-districts the reverse is the case. After

reaching the ground it may pass directly into lakes, rivers, &c., forming surface water, or it may sink into the earth, and be held by the upper strata of soil, forming subsoil water, or it may percolate deeply, be collected in natural reservoirs far beneath the surface, and form deep-seated water. Rain water may be preserved by collections from roofs, storage in cisterns, &c. At this stage, pollution may take place by the accumulations of organic matter from eaves-troughs and water pipes being washed into the storage vessels, and the putrefaction of the organic matter renders water most unwholesome. "The cistern itself may be open to pollution either from its imperfect construction whereby subsoil water enters through the sides or bottom, or by direct contamination from exposed tops." Precautions may be easily taken against all these three factors. The pipes are best made of terracotta, and the next best are the metal pipes; but wooden pipes are objectionable. The water-courses should be kept clean or when not exposed, provision should be made for the diversion of the water that first passes through. "The water, before entering the cistern, should pass through a filter box containing alternate layers of gravel, sand and charcoal, whereby organic matter is removed, and, finally, the cistern is to be built with sides and bottom both sealed and with a close-fitting protected top." Attention to these simple points will insure a supply, however small, of pure, wholesome drinking water.

In deciding upon the condition of *surface water*, which is regarded with suspicion by people of all countries, it may be considered "whether the stream is storm-fed, spring fed or of composite nature; the character of the soil over which it has passed, the nature of the watershed whether populated, wooded or tilled; and of course the opportunities, direct or indirect, of pollution from sewage or manufacturer's waste."

The danger of pollution from manufacturer's waste is threatening to be very great in this country, and the river Hooghly seems to be in particular danger, as will be evident from a characteristic instance mentioned in the Administration report of Bengal for 1894-95. It is stated in that report that "the question of the alleged pollution of the river Hooghly by the discharge of noxious matter from certain mills situated in the neighbourhood of the intake for the Calcutta water supply

at Phalta came specially under the consideration of Government. Enquiry was made as to the desirability of special legislation with the object of putting an end to a practice alleged to be injurious to the public."

But what was done in the matter? Was the Sanitary Commissioner, or any Medical Board, Sanitary Engineer, or Health officer consulted? No. "The Chamber of Commerce and the Special Inspector of Factories were consulted, and both were averse to any such special legislation on the ground that the risk to public health, if it existed at all, could only be very small. In deference to these opinions the Lieutenant-Governor decided to abandon the proposal to undertake legislation in the matter." It is impossible to imagine a more evident shirking of duty on the part of a responsible ruler than the light-hearted manner in which a most serious matter, involving the health of the metropolis of India, was thus disposed of. Happily for Bengal we now live under a better regime. We trust this question will be soon taken up by Sir Alexander Mackenzie, and a proper decision arrived at, which may not run counter to the advanced views of Sanitary Science. More than a crore of Rupees has been spent in improving the water-supply of Calcutta, and as its contamination may affect the health of a large community we hope the question will be thoroughly sifted, and suitable measures taken after due deliberation to prevent the pollution of the river Hooghly.

The zone of *subsoil water* is not of uniform depth at all places, and, though generally, does not always, conform to the surface contour. The quality of the water depends upon the nature of the soil and upon the local conditions, being of a high degree of purity, when these factors are kept free from pollution, and organic matter is removed by filtration and aeration. The gases dissolved by the rain in falling are replaced by the mineral matter of the soil. This is generally the case with wells in new and thinly-populated districts. From barnyards, outhouses, kitchens, distilleries, fields spread with fertilizers, and other similar sources, the upper stratum of soil becomes surcharged with impurities, which are carried into the subsoil water by the rains. In the downward percolation through a soil exposed to the action of pure air, the organic matter is removed and destroyed, and the water entering at the bottom of a deep well will remain

pure in spite of defilement at the surface, provided a constant source of pollution extending downwards, a cesspool for instance, does not exist in the immediate neighbourhood. The insalubrity of city wells is chiefly owing to the fact that the soil of cities is not much exposed to the free action of the air. If then the soil be in proper physical condition and the well were dug to a sufficient depth, and if the water was derived entirely from the base, there would be little reason to doubt its purity. But the mischief is that water passes into the bottom of the well through the sides and from the top without being subject to the wholesome processes of filtration and percolation, and even in closed wells the surface washings are conducted along the cuttings rather than through the soil itself. Geologically the well should be above all source of pollution, its position being such that the flow will be away from and not towards, the reservoir,—“a condition to be satisfied by a determination of the dip of the underlying strata rather than by the surface contour.”

“The open well with wooden buckets represents the most dangerous use of subsoil water, the closed well with iron pumps the most satisfactory; but in either case, due attention must be paid to the location and cleanliness.” We do not quite agree with Dr. Platt when he says that the mere presence of organic matter, even in the form of animal excreta, is not so much an impurity as a proof that the well is open to pollution and may at any time develop poisonous qualities, and that the mere presence of a minute quantity of sewage is not so much in itself injurious as evidence that if at any time disease germs should pass into sewage they would in turn enter the drinking water and render it poisonous. We are of opinion that the minutest quantity of animal and human excreta may be impurity enough to seriously affect susceptible constitutions, and therefore all possibility of contamination with them should be avoided.

The fourth class of potable water is what has been called the phreatic or deep-seated water, about which the following remarks are important:—“Should the subsoil water find its way through the strata near the surface, it may percolate downward for a considerable distance before it again reaches a stratum sufficiently impervious to sustain it. Should this lower stratum be basin-shaped, the water will accumulate until, by

its own pressure, it is brought to the surface through artificial boring—the artesian well—or it may accumulate in the reservoir until it tops it, overflows, and finds an outlet in some ravine or upon some mountain side. In this passage downward the water undergoes many important changes; organic matter is reduced, and destroyed, while mineral matters, and, under pressure, certain gases, are dissolved. The character and temperature of the resulting water will thus depend upon the character of the soil and the depth to which it has penetrated. In soils rich in soluble mineral salts, mineral waters will result, or when the soluble salts are absent, we will obtain an ordinary artesian or spring water, varying in temperature but generally pure, at least free from contamination by specific germs. The location of the artesian well is, however, of considerable importance, and before driving such a well the advice of one versed in the geology of the district should be asked. The source of the water-supply is dependent upon the geological structure of the district, and is rarely, if ever, coincident with the location of the well-head.” In this country, it must be remembered, geological experts are rare, and in their absence all that we can do is to depend upon chance borings.

It will thus be seen that rain water properly collected, filtered and stored, is one source of obtaining pure water; a closed well, properly located and attended to is another; while the artesian well is perhaps the best of all: and that the location of the well should be decided upon with due regard to the geological as well as the surface conditions.

The above remarks on the sources of pure drinking water, and the cheapest and easiest ways of procuring it, are of special value to our country at the present moment when accounts of the distress from want of good, wholesome water for drinking and culinary purposes, and of the diseases which spring from insufficient water supply, are coming from all sides. In former days prior to the introduction of the British rule, wells and tanks without number used to be constructed and kept in repairs by private individuals from pious and benevolent motives. But from causes which need not be recounted here, there has been a decay of this religious sentiment, and charity has, to a large extent, been diverted to other channels. Magistrates, Commissioners, and

Governors of Provinces appear to have been hitherto busy with elaborate schemes of hospitals for females, and of irrigation, drainage, and other sanitary works, but whenever the question of the improvement of water supply in villages and small towns was presented before them, they generally turned a deaf ear to such representations, and left the people under distress to their own resources, or, if they paid any attention to rural water supply it was on a scale far out of proportion to its importance.

For some years past the Government has very properly taken upon itself the responsibility of preventing death from famine. Now famine being ordinarily understood to mean starvation from scarcity or want of food, and water not being ordinarily looked upon as food, nobody seems to have thought of the necessity of providing against a possibility of famine from scarcity or want of water. But if whatever supplies the essential constituents of the body be food, water must be considered to be the most important of all our foods. The originators of the Famine Fund should have kept this in view and not left it out of account altogether, for then there would have been no want of funds to meet the present distress from the water-famine that has overtaken Bengal. And we are bound to add that if the Road cess had been devoted strictly to the purposes for which it was originally intended and to which the Government was pledged, the present crisis could have been averted.

The present water famine has not come upon us as a surprise. We were receiving warnings regarding it for sometime past when the rainfall was becoming less and less from year to year, and our tanks and other reservoirs of water were, in consequence, drying up and threatened with complete exhaustion. We heeded not these warnings. We have not excavated new tanks, we have not even deepened by re-excavation old ones, for the storage of whatever rainwater we were having. The threatened exhaustion of the chief sources of the water-supply of the villages and most of the towns of Bengal, as an inevitable result, has come; and unless prompt measures are taken, it will be impossible to avert the consequences of a water-famine which are far speedier and far more frightful than those of food-famine. Already, cholera, the offspring of dirty and polluted drinking water, is raging with epidemic virulence, and if the present state of things is allowed to continue, the mortality

from this disease alone will be something which it is appalling to contemplate.

The moment has arrived when the exercise of the highest philanthropy is imperatively demanded. There is no time for mere talk. There is no time for idle discussion about the respective duties of the Government and of the people. There is no time to ventilate the question whether by paying the Road cess the Zemindar has been absolved from all obligations to make the necessary improvements in his Zemindary for the benefit of the Rayat. The cry of distress is loud and universal, and no time should be lost in attending to it. Every one, from the highest official to the poorest villager, should bestir himself to do something to ward off the threatened catastrophe. We appeal in particular to our millionaires amongst whom happily there are many who are enlightened and liberal, and who require no other stimulus than the dictates of their own conscience and their religion for the performance of deeds of charity; and at the present time there is no charitable deed which can compare with the gift of water to the thirsty. Our Scriptures abound with promises of rewards to doers of such deeds. Thus, we have Manu telling us:

वारिदस्तृप्तिमाप्नोति सुखमच्यममृदः ।

“He who gives water shall enjoy everlasting gladness as he who gives food shall enjoy everlasting happiness.”

In *Nandipurana* we read :

यो वापीमयना कूपं देशे तोयविवर्जिते ।

खनयेत् स दिवं याति विन्दौ विन्दौ यतं समाः ॥

“He who causes lakes or tanks to be excavated in places where there is no water, goes to heaven (and dwells there) a hundred years for every drop of water (in those lakes or tanks).”

Chitragupta tells us :

जलाययार्थं यो दद्यात् वारुणं लोकमाप्नुयात् ।

“He, who gives land for the excavation of a receptacle of water, dwells in the abode of the god Varuna.”

In *Kapilapanchatantra* we read :

संचेषात्सु प्रवक्ष्यामि जलदानफलं यृषु ।

इष्कारिण्यादिदानेन विश्वः प्रीणाति विश्वधृक् ।

“Listen, I will briefly explain the merit that attaches to the gift of water. Vishnu, the preserver of the universe, is pleased by the gift of tanks and such like.”

In *Vrihaspati Samhita* we read :

. वापीकूपतडागानि उद्यानोपवनानि च ।

पुनः संस्कारकर्त्ता च लभते मौलिकं फलम् ॥

"He who effects improvements in lakes, wells, tanks, parks, gardens, &c., enjoys all the bliss to which their original founders are entitled."

We could multiply texts almost without number, but we do not think it is necessary. The true Hindu acts from the most absolute disinterestedness. He does a good deed simply because it is good, because it is his duty to do it, and not in expectation of any reward here or hereafter.

REVIEW.

The Diseases of the Liver: Jaundice, Gall-stones, Enlargements, Tumours, and Cancer: and their Treatment. By J. Compton Burnett, M.D. Second Revised and Enlarged Edition. Boericke & Tafel. Philadelphia. 1895.

(Concluded from p. 58, No. 2, Vol. xv.)

Dr. Burnett seems to have anticipated our question—Are we to go back from the reign of law to the reign of chance? At least the following may be taken as his answer to the question: "Certain drugs have been discovered by man, almost in all places and at all times, that have an elective affinity for these organs, and these drugs have some of them received names indicative of their action, hence we have head medicines, spleen medicines, liver medicines." To remove all doubt he speaks of his small volume as "intended to shew that the greater or more common diseases of the Liver can, for the most part, be readily cured by hepatics or liver medicines."

Dr. Burnett is fully aware of the very fundamental difficulty that must be overcome before one can use these medicines with precision. "Inasmuch as," says he, "a large number of hepatics are well-known to us, our chief difficulty lies in finding out *which* remedy will cure a *given* case. How far I have succeeded in overcoming this difficulty is shown in these pages, and where I fail, others, beginning where I leave off, may succeed." We must confess we do not understand how a number of remedies being *well-known* we cannot use them in their appropriate cases. They cannot be said to be well-known if their precise uses have to be found out by guess or hap-hazard experiment.

Dr. Burnett's pages show how an intelligent physician can effect some very brilliant cures, in the majority of cases, by the random use of some drugs which had nothing else to recommend them than that they were "well-known" as hepatics. We doubt

if they shew how he overcame the difficulty spoken of above, namely, that of discovering their precise use. And hence it will not be easy for one less gifted to follow him out of his failures to success.

He has, it is true, attempted a sort of differentiation between certain remedies, as between *Carduus Mariæ* and *Chelidonium majus*, about which he says, "the kind of liver enlargement which *Carduus* cures is in the transverse measurement, and the kind of enlargement which *Chelidonium* cures is in the perpendicular line." We are not told on what grounds is this assertion made. Certainly not on that of the provings of these drugs. For he himself admits that "the comparison is crude and mechanical, yet withal I submit, not without practical value." Of what practical value this crude and mechanical comparison has been to others we know not, but to us it has been Nil, indeed, most disappointing.

Throughout this little book, in every case where other than homœopathically indicated remedies are used, we are not told the reason why one remedy is preferred to another. Take his "Remarkable Case of Jaundice of Nine Years' Duration with Gall Stones of Large Size." After trying *Hydrastic Can. ℥*, *Thuja 30*, and *Urtica urens ℥* with doubtful or fluctuating success, the patient making but little and not much progress, the author "made a further and very careful survey of the ætiological history of the case, and came to the conclusion that the whole thing was of uterine ORIGIN. * * * I reasoned from the clinical data taken in historic sequence that the primary affection years ago was uterine, and the hepatic affection consecutive thereto, and starting therefrom, I saw clearly that the old ulcerated condition was at the bottom of it, or rather that was as far back as I could get for the present." Having thus satisfied himself of the *fons et origo mali*, he had no difficulty in finding out the appropriate remedy. "As I have had a good deal of clinical experience of *Bursa pastoris*, tending to show that it is a remedy specifically affecting the womb in like manner as *Chelidonium* does the liver, I at once determined to test for the right *appropriatum uteri*, as I conceive Paracelsus or Rademacher might have done."

Is *Bursa pastoris* the only remedy which specifically acts upon the womb? There are certainly several others whose action is even better defined than that of *Bursa pastoris*. The reader should have been told why the author gave the preference to this remedy over others. Paracelsus and Rademacher might have been justified in using it, as they had no other guide than guess and haphazard to lead them to the selection of remedies. But one in the possession of the light of homœopathy would not be so justified.

That the remedy was used purely at random, without a sufficient

knowledge of its true action either upon the uterus or the liver, is evidenced by the fact that after the first improvement that followed its use for a few days, there was no further progress but the patient lost her sleep, the liver again began to enlarge, there was no further diminution in the size of the spleen; and still Dr. Burnett "did not feel justified in leaving off *Bursa*, and alternated it with *Chelidonium* ψ ." What was the result? "Patient was very ill, and every body gave her up, excepting myself. I did not see my way out of the wood, but still I hold that the physician who gives up before the patient dies is on a par with the soldier who runs away with the enemy."

Dr. Burnett went on heroically with the case, using a host of other remedies than *Bursa pastoris* which he did not give up altogether, but used now and again, and though a final cure was effected, the *Bursa* does not seem to us to be the remedy that did it. And yet the author in his summary of this case says: "We see in this case the importance of Paracelsic organ-testing to find out the *point de depart* of the series of morbid phenomena; hepatics and splenics had no adequately curative effect till the uterine medicine (*Bursa pastoris*) had touched the place of origin of the liver affection, and as soon as this was done immediate improvement began! We have now cured the jaundice; the gallstones have been got rid of through the natural ways; the liver is well, and the patient is going about her business." The details of the case given by the author himself do not justify the summary, which would seem to leave the impression upon the reader's mind that the *Bursa pastoris* was the final effective curative remedy.

Dr. Burnett has given, in the third, concluding (new) part of this edition, clinical illustrations of some new hepatics whose value as such he has come to know after the issue of the 1st edition. These are *Chelone glabra*, *Helianthus annuus* (the sun-flower), *Calendula officinalis*, and *Quassia*. About each of these we find the same vagueness and uncertainty, as about the remedies mentioned in Part II, which constituted the 1st edition. Thus about the first named remedy he says—"I think I have discovered an important differential point for the scientific use of *Chelone glabra*." This discovery, we are told, was based upon a case in which an enormous varix of the right groin, which was associated with a slight enlargement of the left lobe of the liver, disappeared under the use of *Chelone*, after failure of *Chelidonium* and *Carduus*. And from this (and similar observations—not given), the author has felt justified to lay it down for his own future guidance "that the seat of action of *Chelone glabra* is the left lobe of the liver and its line of action is in the direction of the navel, bladder and uterus." The author adds immediately, probably in pallia-

tion of his hasty generalization, "that this is really so the competent will have no difficulty in verifying; whether *Chelone* acts upon the liver itself as a true hepatic I would not venture to affirm; perhaps it reduces the swellings of the left lobe of the liver by its action upon the veins running up to the liver." But notwithstanding that all this is guess work, the reader is assured that, "Many of the 'New Remedies' have come and gone; *Chelone* has come to stay: its sphere of action is small, its action sharp and withal well defined."

About *Calendula* he tells us: "In liver affections I had not used it till Dr. Robert T. Cooper mentioned it to me in this regard, but *he knew of no special indications for its use in preference to any other, and this is ever the great difficulty with organ-remedies, especially where the epidemic genius of the disease is unknown and, as it so often is, unknowable*; my greatest help is to find out the exact part of the organ or part, a given remedy affects and this is often quite sufficient." The italics are ours, and the reader will see at once the chief point we have been all along urging, namely, that the use of the so-called organ remedies, so long as not based upon provings, must necessarily be vague and uncertain; that mere clinical experience with them, like all empirical facts, cannot remove this vagueness and uncertainty; and that we can be justified in using them only when we fail with proved remedies.

We have been at so much pains to expose the worthlessness of empirical organopathy, simply because a most eminent member of our school has thought fit to prop it up with the weight of his authority. We would conclude with Dr. Burnett's own words which we find as a note in his *Hahnemannian Oration*: "There is too great a tendency amongst us to degenerate into mere homœopathic *Specificker*; witness Dr. Yeldham's Presidential Address at the Leeds Congress, 1880. No doubt it is good, nay very good, to be a homœopathic *Specificker*, but it is better, very much better, to be an *individualizing* homœopath. I do not claim to be any better than my neighbours: almost daily I find myself slipping back into the royal road of treating the disease in lieu of the patient. Individualizing is so laborious, and still too far in advance of the hodiernal medical mind." The slipping back has, we are sorry to see, been very great indeed.

EDITOR'S NOTES.

A Case of Ill-Effects of Vaccination.

At the meeting of the New York Pedological Society (Homœopathic) held on the 15th of January last, Dr. F. W. Hamlin reported a case of the ill-effects vaccination. Dark red spots appeared upon various parts of the child's body on the ninth or tenth day after the vaccination. The spots resembled those of purpura, but the only other sign of hemorrhage was some slight bleeding of the conjunctiva. The temperature was 102°-104°. Dr. Deschere diagnosed the case vaccinosis.—*Medical Century*, Feb. 1.

• Muscular Work and Albuminoids.

On the 24th February last, M. A. Chauveau read a paper in the Paris Academy of the Sciences on the relation between muscular work and the albuminoid materials of the body,—an experimental study of the question as to whether albuminoids take part in the production of external work. The results show that the amount of nitrogen secreted is practically the same whether the animal is doing external work or not, and thus confirming the conclusion drawn by the author from previous experiments, that it is by combustion in the muscle of carbohydrates that the energy necessary for external work is produced.—*Nature*, March 5th.

The Ciliary Ganglions—a Sympathetic Structure.

At the meeting of the Physiological Society of Berlin held on the 24th of January last, Dr. Apolant spoke on the ciliary ganglion, which has at one time been regarded as a spinal, at another time as a sympathetic structure, these views being based on anatomical, morphological, embryological and physiological researches of late years. It has been shown by stimulation that this ganglion is in the closest relationship to the oculomotor nerve. The speaker had made experiments on cats and found that the degeneration set up by section of this nerve progresses only as far as the cells of the ganglion; whereas the latter, as well as the ciliary nerves which spring from them, remain intact. He hence concluded that the ganglion belongs to the sympathetic system.—*Nature*, Feb. 27.

• The Fecundity of the Frenchwoman.

In a suggestive article in the *Revue Scientifique* of Feb. 8th, M. Turquan states that between the ages of fifteen and nineteen years the fecundity of his countrywomen is scarcely if at all inferior to that of other European women at the same period of life. After the age of twenty years, however, this fecundity falls to two-thirds of that of other European women, and this proportion falls to one-half beyond the age of thirty-five. Speaking generally, French natality is to natality in the other European races as two is to three. Were French mortality as proportionally small equilibrium would be established. Unfortunately, many European countries enjoying a birth-rate almost double that of France have the additional advantage of a death rate which is one-third less than that of this country.—*The Lancet*, Feb. 22.

Abuse of Alcohol.

At the meeting of the St. Louis Homœopathic Medical Society held on the 4th of January last, Dr. J. C. Cummings read an interesting, practical and exhaustive paper on "The Abuse of Alcoholic Stimulants." After citing authorities of note who maintain that alcohol is not a food, and the men under great stress and in extremes of heat and cold are positively injured by partaking thereof, the lecturer stated that he prescribes less and less stimulants each year of his practice, and has a firmer faith in the properly-selected homœopathic remedy. The older members of the profession concurred in the statement that they were more guarded in prescribing stimulants than in days past, and the almost unanimous practice among the younger physicians was to give no stimulants at all in typhoid fever, pneumonia, diphtheria, &c.—*Medical Century*, Feb. 1.

Boiled vs. Raw Milk.

Practical and everyday experience shows that when milk is boiled it is not only more easily digested, but that it has a nutritive value quite equal to the raw article. Experiments undertaken by Dr. C. Chamouin (*Canada Lancet*), first with kittens and afterwards with infants, showed after exhaustive and repeated trials that the kittens fed on boiled milk were "twice again as fat" as those supplied with the raw milk, and that the boiling of milk is the means of preventing the loss of innumerable lives by gastro-intestinal disease. Not only so, but it is more easily digested, and agrees with a far greater percentage of cases than unboiled milk. There is ample authority for this view of the case, but certain points must be attended to, else the results will not be so favourable. First, all the vessels in which the milk is carried, boiled, and afterwards kept must be *scrupulously clean*. Nothing else but absolute freedom from dirt will suffice. Then it should never be boiled in an open vessel; this should have a close cover. Lastly, it need not be kept at 212° F. for more than twenty minutes. This is sufficient to sterilise and cool it, and no further boiling is necessary.—*The Practitioner*, March 1896.

Climate and Disease.

Nature (5th March) takes notice of an interesting paper "On the climates of the earth and their influence on mankind" by Dr. W. J. Van Bebber of the Deutsche Seewarte, published in *Globus* (vol. lxi. Nos. 6 and 7). After giving a general description of continental and ocean climates, and of the influence of mountains and forests, he discusses in some detail the peculiarities of climate of various zones, and traces their influence on diseases, especially on malarial fever and cholera in the tropics. He finds that the occurrence of the former is closely related to rainfall and temperature; the fevers begin with the rainy season, usually reach their maximum by the time the rain abates, and decrease as cooler weather sets in. The malady becomes acute when warm weather occurs after an inundation. During the present century there have been five great epidemics of cholera. In the origin and development of this disease the weather conditions are

found to have different effects according to the locality. In Bombay and Calcutta, for instance, it generally begins before the hot and rainy season, and decreases with increasing temperature and rainfall; while in other parts, cholera is most frequent towards autumn, and decreases with decreasing temperature. The occurrence of land and sea breezes (including monsoons) in various parts of the globe is discussed at some length.

Study of Children.

The scientific study of the mental and physical condition of children, carried out by Dr. Francis Warner in connection with a Committee of the Congress of Hygiene, has led to results which claim full consideration. Dr. Warner gave an account of his investigations before the Royal Statistical Society last week. It appears that defective development is more frequent in boys than in girls. Mental dulness is found much associated with irregular movement and action, especially among boys, showing that physical exercises should form a part of brain culture in school. Dealing with a question of mental dulness, Dr. Warner showed that the want of physical training of the brain appears to be a most frequent cause than defective development of the body. Defective physiognomy and proportioning of the features and parts of the body is often associated with mental dulness, but the occurrence of brain disorderliness, indicated by observable signs, is a more general and direct cause. Both defect in development and nerve disorderliness, either alone or in combination with low nutrition, are much associated with mental dulness. From the facts collected, Dr. Warner has been able to deduce the indications of some of the physical causes of defect of body, defect of brain, and mental dulness. It is to be hoped that it will be possible to continue such research beyond the metropolitan area, and that a commission might be appointed by the Government to consider the many important recommendations on national education resulting from the investigation thus far completed. —*Nature*, Feb. 27.

Bacteriology in the Rochester Homœopathic Hospital.

Not satisfied with the notable achievements of the past, the managers of the Rochester Homœopathic Hospital have taken another long step forward. We learn from Dr. E. H. Wolcott that arrangements have been made with Dr. Charles W. Dodge, Professor of Biology in the University of Rochester, and Dr. H. W. Hoyt, the Hospital Pathologist, to conduct experiments and examinations in Bacteriology at the hospital. The examinations for the Board of Health, which furnishes all necessary apparatus will be made there, and Dr. Hoyt, prepared by special study and work, will carry on the work for the hospital. Suitable rooms have been provided, and it is expected that with the incoming of the new year the hospital will be engaged, not only in the care and treatment of the sick, but also in investigating the causes of disease in a practical and scientific manner. This new departure cannot be too strongly commended or supported. It is a step in the right direction. Work of this kind must be done by the

homœopathic school if it would keep pace with modern scientific thought and progress. And when around this laboratory, newly established, there shall arise other important departments of research and investigation, including a College of Drug Proving, then will the best and highest needs of the school be nobly met. We congratulate the homœopathic physicians of Rochester on this advance and shall look for a steady growth and development of the new department.—*North American Journal of Homœopathy*, Jan. 1896.

The Treatment of Burns.

At a meeting of the Leeds and West Riding Medico-Chirurgical Society held on the 7th of February last, a long discussion was carried on as to the proper treatment of burns. Mr. W. H. Brown considered the present-day allopathic treatment to be unsatisfactory and considerably behind that of other cases of injury. The death rate from burns of all degrees in the Leeds General Infirmary was identical with that of twenty years ago. The causes of death were first, shock, and secondly septicæmia. A dose of morphine should be given first of all to allay shock, and allow the parts to be carefully cleansed and dressed. To keep the patient warm and protect the burns from air, the continuous use of warm bath, rendered antiseptic with boric acid was recommended; and carbolic acid and mercury were discarded as being too easily absorbed. To lessen or prevent septicæmia, Mr. Brown found eucalyptic oil which was non-tonic and non-irritant to be useful, but he suggested that where possible the surgeon should cut or scrape away the tissues that appeared to be destroyed beyond chance of recovery and then apply an ordinary surgical dressing.

Mr. J. W. Teale (Scarborough) said that he had used chloroform to apply and re-apply the dressings, and found it efficacious in allaying shock.

Dr. Barrs suggested peppermint oil as a useful antiseptic. Mr. Ward suggested intravenous saline injections as a remedy for the intense thirst so constantly experienced. Dr. Trevelyan thought that death in these cases was not due to septicæmia, but to a blood change giving rise to thrombosis of small vessels in the lungs.

Case of Cerebral Tumour.

In the *Journal of the American Medical Association*, Dr. Dufour of Washington relates a case of a woman aged fifty-six who suffered from paralysis of the muscles supplied by the third, fourth, and sixth nerves of the left side, and exophthalmos and optic atrophy in the same eye. Some months before she had been operated on for empyema of the left antrum, and when seen there was free drainage through the nostril. She was treated with iodide of potassium and mercury, but apparently with only small doses of the former drug. There was no benefit derived from the treatment, and the upper division of the fifth nerve became involved and the pain in the head intense. A re-opening of the antrum gave a little relief for a few days only. Her condition gradually deteriorated, the right optic nerve began to atrophy, word deafness became manifest, and her mind wandered. She died

about a year after she was first seen. At the necropsy there was found to be a gumma of the dura mater in the anterior part of the middle fossa involving the left temporo-sphenoidal lobe. This growth surrounded the internal carotid artery and the left optic nerve and exerted pressure on the cavernous sinus of that side. A second gumma was found in the left olfactory region, and a third lay in the angle at the right of the optic commissure. The last-mentioned lesion probably accounted for the late affection of the right optic nerve.—*The Lancet*, Feb. 29th.

The Influence of Forests on Birth and Death.

The destruction of Forests has long been connected with drought, and thus been regarded as a great calamity to the agriculturists. The world is indebted to France for the first discovery of this fact, and for the earnest attempts made by her to enact stringent rules for the conservation of Forests. On the present occasion, we owe also to a Frenchman for the discovery of the connection between the denudation of forests and the depopulation of the countries in which they existed. We learn from the Paris correspondent of the *Lancet* (Feb. 29) that the question of the influence of forests on Birth-rates and Death rates has been recently investigated by M. Jeannel (*Académie de Médecine*, Feb. 11, 1896). "It would appear that a process of gradual wood denudation has been going on in certain departments, and that this process has been attended by serious inconvenience from a geological, meteorological, and sanitary point of view. Censuses taken since 1871 show that in the thirty deforested departments there has been a progressive diminution in the birth rate. Between the years 1886 and 1891 these same departments incurred a serious loss of population as represented by an excess of 89,682 deaths over births. The mortality in these departments was nine times greater than in the rest of France." It appears to us that the announcement of the simple fact of the gradual decrease of birth in a country which has been denuded of forests, is not enough to show the invariable connection between the destruction of wood and the diminution of birth in the regions formerly overgrown with it. A more detailed examination of the question ought to precede the adoption of such a startling conclusion.

*** The Infant Life Protection Act in London.**

The *British Medical Journal* (Feb. 29.) gives some account of the Baby Farming System in London. This system is an outcome of the boasted advanced civilization of Europe and America, and must be looked at in the face. Our contemporary has pointed out the defects of the Infant Life Protection Act by which the lives of illegitimate children are supposed to be protected by the state, and the urgency for definite amendments of the Act before its beneficial effects can be satisfactorily attained. It is patent nevertheless that in London at least where the administration of the act is undertaken by the London County Council of the Public Control Department, great care is taken in enforcing its provisions. In England, there are a large number of

journals—mainly Sunday papers—which announce advertisements relating to baby farms. As soon as a new advertisement appears in a newspaper—and the Public Control Department subscribes to every paper published in the Metropolis of England in which such advertisements are inserted—an officer of the department at once proceeds to make inquiries. Letters are written to the advertiser in the hand of a woman in order to disarm suspicion, and an interview is eventually arranged. In this way the Public Control Department has knowledge of every woman in London who attempts to obtain the care of infants for hire.

It appears from the last report published by this department that during the year 1894-95 there were 38 houses registered in London under the Infant Life Protection Act. These houses are shown to contain 121 infants under 1 year. In the unregistered houses, however, which came under the notice of the inspectors of the Control Department, the number of infants received for hire was 510. Of this number, 275 were under the age of 1 year, 84 between 1 and 2 years, and 151 above 2 but under 7 years. In the registered houses, out of 121 children under 1 year, there are 12 deaths, or barely 10 per cent.; but in the unregistered houses out of 275 under 1 year, there were 55 deaths, or a mortality of 20 per cent. The figures quoted above seem to show that London is very far from being a favourite locality for baby farmers to practise their trade. In order to free themselves from the vigilance of the inspectors, these baby farmers move to localities outside the metropolitan district. It appears clear therefore that so long as the operation of the Infant Life Protection Act is not extended, the evils of the baby farming system will continue.

The Army and the Indian Medical Services.

We are extremely sorry to learn that there has been a falling off of candidates for Commissions in the Army Medical Department and the Indian Medical Service, in proportion to the vacancies offered for competition. In answer to a question asked by Dr. Tanner, Mr. Brodrick, the Under Secretary of State for War, made the following statement in the House of Commons on the 21th of February last:—The candidates during the last three years have been for the Army Medical Staff:—59 for 26 vacancies, 51 for 22 vacancies and 40 for 27 vacancies; for the Indian Medical Service: 63 for 27 vacancies, 69 for 28 vacancies and 70 for 31 vacancies. Although in the case of the Indian Medical service the falling off has occurred in a less degree than in the case of the Army Medical Staff, yet as the whole of the higher Medical appointments in this country are exclusively filled up by the candidates selected at Netley for the Indian Medical Service, and as the rage for experimentation in connection with sanitation and the treatment of diseases prevails in India to a much greater extent than perhaps in any country of Europe or America, the falling off referred to must be regarded as a great calamity to this country. We are glad to be assured that the causes of this diminution are engaging the serious attention of the War Office, and that Mr. Brodrick hopes to be in a position to make a statement upon the

subject in introducing the Army Estimates. As the diminution referred to affects India more than any other possession of our Queen, we would exhort the Secretary of State for India to move in the matter, and do his best to make the Indian Medical Service more attractive to the superior grades of students of Medicine and Surgery. We would also exhort him to rise above the prejudices of certain local authorities here, by offering a few of the higher medical appointments in this country to the Senior Assistant Surgeons of the Indian Service.

An Overdose of Strychnine.

A member of the profession has sent us an account of his unpleasant personal experiences after an overdose of strychnine. He had for some days been taking once a day after dinner three to five drops of liquor strychnine, B.P., but on a certain evening he carefully "poured out ten drops," which he mixed with two drachms of a solution of sulphate of quinine of the strength of one grain to the drachm. This was well diluted with water and two drops of liquor arsenici hydrochloricus were added. Half an hour after taking this draught he began to feel uneasy and restless, and found he could not walk about with comfort. A little later he lost control of his legs, which felt tense and jerky. He then noticed some slight stiffness in the facial muscles and found there was a distinct tendency for the corners of the mouth to be drawn up. He felt better when lying down, but any attempt to move excited spasm of the muscles of the legs and thighs. He took twenty grains of bromide of potassium and about an hour after the first appearance of the symptoms he sent for medical aid, but meanwhile slight convulsions with distinct opisthotonos had set in. Although the mind is usually said to be absolutely clear, the patient found concentration of thought difficult and he remarks that although doubtless under ordinary circumstances he would have remembered chloral as the proper physiological antidote, its very existence never entered his head. Nearly an hour passed before medical assistance arrived, and by this time the patient was conscious of being in extreme danger; the slightest movement was accompanied by a convulsion of the whole body, with well-marked opisthotonos and with sudden contraction of the muscles of the chest. Breathing was now difficult, but the diaphragm appeared to be working well and fully under control. A quarter of a grain of morphine was injected subcutaneously, and, as the convulsions continued, twenty minutes later another injection of one-eighth of a grain of morphine was given. From this time the spasms gradually declined, he vomited freely, and then slept at intervals from midnight until about 7-30 A.M., when the symptoms were practically at an end, though for many days he felt tired and disinclined for work and the muscles of his chest remained acutely painful on any exertion. This case presents many interesting features; assuming that ten minims of liquor strychnine was the dose taken, the symptoms were very severe, but the patient admits that possibly, while talking, he might have poured out two teaspoonfuls of the strychnine instead of the quinine solution. The early affection

of the facial muscles is also unusual, and the patient doubts very much whether any of the muscles were quite relaxed in the intervals between the paroxysms; the legs were constantly jerking and it seemed impossible to bend them as they felt as stiff as boards. Our *confrère* is distinctly to be congratulated upon the successful issue of an unpleasant experience, but we doubt whether, even in the interests of science, he could be tempted to repeat the experiment with an undoubted dose of ten minims only.—*The Lancet*, Feb. 29th.

The Indian Medical Service.

The amalgamation of the Indian armies of the three Presidencies, has necessitated the following changes in the organization of the Indian Medical Services:—The medical services of Bengal, Madras and Bombay will be constituted into one service under the direct administrative control of the Government of India. The Surgeon General with the Government of India will be the head of the amalgamated Indian Medical Service, and he will be called "Director-General of the Indian Medical Service."

No change will be made in the conditions under which the Indian Medical Officers of the three Presidencies, appointed before the second examination in 1896, are serving; promotion will continue to run on their respective lists, and the sphere of their employment will remain as at present, except in cases of emergency, when it may be desirable to employ them temporarily beyond it. In time of war all officers who can be spared from civil duties will be employed as the exigencies of the service may demand.

From the date of the second examination in 1896, Surgeon-Lieutenants will be recruited for the amalgamated Indian Medical Service, and the appointments will be made on the general list. Subject to the requirements of the service, officers will be allowed choice of Commands according to their position on the list as determined by the combined results of the preliminary and final examinations. The officers appointed to this list, although ordinarily employed within the Commands to which they may be posted, will be liable to employment in any part of India according to the exigencies of the service. The subsequent transfers to civil duties will ordinarily be allotted, so far as the requirements of the service will allow, to the provinces within the limits of the Commands to which the officers were originally posted.

The present Surgeon-Generals with the Government of Madras and Bombay will retain their claim to rank, pay and pensions under existing rules. The question of the continuance of these privileges to their successors in office will be reserved for future consideration. These Surgeon-Generals will be restricted to the exercise of the functions of Administrative Medical Officers and Civil Inspector-Generals of Hospitals in respect to the Civil Medical Staff and Civil Medical Institutions in the Presidencies to which they may respectively belong. They will cease to exercise any control over those sections of the existing medical establishments of Madras and Bombay, which are composed of officers employed with the army, or over the reserve of 25 per cent. for leave and casualties, the administration of which

will be conducted directly under the orders of the Government of India.

The post of Secretary to the Surgeon-General with the Government of Madras or Bombay will be retained for the present incumbents of the office of Surgeon-General with these Governments. On a vacancy occurring in the post of such a Secretary, it will only be filled by an officiating officer, and when the present Surgeon-Generals vacate their appointments, their successors will not have Secretaries but only Personal Assistants.—*Gazette of India*, March 7th.

. CLINICAL RECORD.

CASES BY DR. MAHENDRA LAL SIRCAR.

1. A Case of neuralgic Toothache cured with *Plantago* Maj.

Babu Lal Mohan Sanyal, of Doctor's Lane, Taltalla, Calcutta, aged 62, came to me in the afternoon of the 21st inst. for relief of a toothache from which he said he was suffering for 15 days. The seat of the pain was in the root of the last molar of the left side of the lower jaw; but the whole left side of the head suffered sympathetically. There was throbbing pain within the left ear which would get worse from the slightest touch. There was aggravation of the toothache and of all the other pains whenever cold or hot water was taken into the mouth. He has had all sorts of medicine, internal and external, without the slightest benefit. Hot fomentations externally would cause only temporary relief. There was no swelling of the gum around the affected tooth. The pain was thus in the nerve of its root. He could not attribute it to any cause, but on inquiry I found he had indulged in all sorts of cooling things in this hot weather, including the infusion of the raw mango which is very acid.

I gave him *Plantago Major* 2x, 4 doses. The first dose gave him so much relief, that he likened it to the quenching of a fire by water. The remaining three doses completed the cure, and he is now quite well, astonished at the magic action of homœopathic medicines. In another case some years ago *Plantago* acted so instantaneously that the patient said that he felt relieved before the medicine had reached the stomach. Toothache has brought in many a convert to homœopathy.

2. A Case of Cholera.

I was called to see Srinati—, a married lady, aged 63, at about seven on the morning of the 21st February last. I found her pulseless, with cold extremities, sunken eyes, and tormented with thirst.

The history was: she was seized with vomiting and purging at about 2 A.M. She had about 8 watery stools between 2 and 3 A.M. attended with much pain in the bowels, the quantity passed each time varied from 16 to 24 ounces. Within that time she had vomited 10 times, the vomited matter consisted at first of undigested food which tasted sour, and afterwards of watery fluid with flakes of mucus, without any taste whatever. The pulse disappeared and the extremities

became icy cold from 3 A.M., and the vomiting ceased about that time. From 3 to 6 A.M. the patient had about 13 stools, the quantity being somewhat smaller, from 8 to 10 ounces each time, watery and containing flakes of mucus. There were slight cramps in the extremities and the thirst gradually increased in intensity.

Between 4 and 6 A.M. the patient had taken 4 doses of a mixture each containing Tinct. Strophanthus mj . Nitro-glycerine (1 in 100) mj , and Peppermint water 4 drachms; and two powders, each containing Hydr. c. Creta gr $\frac{1}{4}$ and sugar of milk gr ii .

When I saw her at 7 A.M. she was passing stools pretty frequently though slightly less so than before, and the quantity each time was also less. The character of the stools was peculiar, they were pinkish as if mixed with blood. As the stools were attended with much pain in the intestines I gave her *Ver. alb.* 30.

By 12 noon she had passed 10 stools of the same character, became more thirsty and began to be restless, tossing her limbs about, the extremities continuing icy cold, there was no sign of pulse at the wrist, but there was no cramp and no vomiting. I gave her *Carbo v.* 12.

From 12 noon to 6 P.M. she passed 8 stools of the same character, and the collapse became worse. On learning that she was in the habit of taking opium, about 3 grains at 5 P.M. daily, I ordered half the quantity to be given to her with about $\frac{1}{3}$ th of a minim of peppermint oil. After the opium the stools were less frequent, being 6 only in 12 hours from 6 P.M. to 6 A.M. But there was no other improvement. Pulselessness, icy cold extremities, and pains in abdomen, continuing, as before. In addition there was more restlessness, hiccough which was severe at times, tongue dry and bluish though no thirst, epigastrium tympanitic, cold clammy sweat on forehead, suppressed urine.

Feb. 22. Passed a stool at 6 A.M. of reddish color and containing mucous flakes as before, in quantity only about an ounce. Gave *Arsenic* 30. She passed $\frac{1}{4}$ more stools up to 2-15 P.M. of the same character, one of which was copious, being 8 ounces. But there was this improvement noticed to-day. She began to vomit bilious stuff, greenish and bitter, quantity varying from 2 to 4 drachms. Up to noon she had 6 such vomitings. She had no thirst, but would ask for water to relieve the hiccough which was very frequent. The extremities were still cold, there was still no pulse. The same quantity of opium was again given to-day at 6 P.M.

Feb. 23. No stool the whole day. No urine. Pulseless. Still complains of pain in the abdomen. Some tympanites. Severe hiccough. Gave some globules moistened with Tinct. *Camph.* At 5 P.M. there seemed to be a return of the pulse at the wrist. Opium was again given to-day, but an hour later, that is, at 7 P.M. There was no sleep at night, and delirium set in from 3 o'clock after midnight.

Feb. 24. Pulse distinctly perceptible, 120. Temp. 97. Low muttering delirium with stupor, from which she could be roused, and then she would answer questions sensibly. Picking of the bed clothes. *Bell.* 3x in the morning. No stool, but passed urine freely at 1-30 P.M. Hiccough less. Opium only 1 gr. was given at 6 P.M.

Slept a little at night. There being still no stool, and the bowels being tympanitic, a dose of *Nux. v.* 6. was given late at night.

Feb. 25. No stool. Pulse stronger, 110. Temp. 98. Passed urine freely once at 8 A.M. but continues delirious and became careless of her clothes, showing symptoms of loss of her usual modesty. Gave a dose of *Hyosc.* 6. Urine again free at 1-30 P.M. but delirium no less. Stopped her habitual crude opium. Became restless after evening as from want of opium. Gave *Opium* 3x, 2 drops at 9 P.M., to be repeated after 4 hours, if no stool would follow. After the second dose, passed stool at 3 A.M. and slept better.

Feb. 26. Less delirious. Passed urine and stool at 8 A.M. No hiccough. Pulse 100. Tongue moist. Opium stopped. Diet, milk.

Feb. 27. Pulse 100, temp. 98. Passed urine and stool twice. Became very restless at night complaining of gnawing in the whole body, just as opium eaters deprived of their opium complain. Half a grain of opium was given at 1 A.M., and in half an hour she became quiet and slept soundly.

Feb. 28. Passed two stools, color yellow, mixed with slime and blood. No delirium. Diet. Barley water and *Gandhal* soup. Opium $1\frac{1}{2}$ gr. at 6 P.M. Slept well at night.

Feb. 29. Passed 5 loose stools. Diet: Barley water and *Gandhal* soup. Opium gr. $1\frac{1}{2}$.

March 1. Passed 3 loose stools. Diet: well-boiled rice and fish-broth. Opium gr. $1\frac{1}{2}$.

March 2. Passed one natural stool. Is all right. Diet: Soft rice and fish broth. Opium gr. $1\frac{1}{2}$.

Remarks.

The chief points of interest in this case are: 1. That it was a case of cholera in an opium eater; 2. that notwithstanding the collapse, the habitual opium had to be given, though of course in reduced dose; 3. that the reputed remedies for choleraic evacuations and collapse did not seem to do appreciable good; 4. that the reaction seemed to come on gradually and spontaneously, or perhaps the camphor given in very minute doses had something to do in bringing it about; 5. that constipation setting in, the crude opium, which was evidently aggravating it, had to be stopped, that opium in dilution succeeded in bringing on stool after *nux vomica* had failed; 6. lastly, that the habitual opium had to be resumed.

What was the pink color of the stools due to? It is a pity I had no opportunity of examining the stools microscopically to ascertain the point. I suspect the color was due not to blood but to some micro-organism, probably the *micrococcus prodigiosus*. The stool of the 28th Feb. really contained blood.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

123. JUNIPERUS VIRGINIANA.

Constipation :

1. Constipation following looseness. .

Diarrhœa :

1. Violent purging, which continued till death.

General Symptoms :

1. Raving delirium during fever.
2. Piteous moaning. 3. Fright.
4. Stupor deepened as the convulsions continued.
5. Profound coma with heavy but regular breathing.
6. Awoke to perfect consciousness from her comatose sleep, with no recollection of what had occurred since swallowing the oil.
7. Dizzy. Head felt as if enclosed with an iron band.
8. Eyes felt as if bursting from their sockets. Pupils dilated.
9. Face swollen and livid.
10. Could not speak so as to be understood ; articulated like a hemiplegic patient.
11. Fauces in spots denuded of mucous membrane.
12. Great thirst
13. Nausea. Continual vomiting, at first of black and afterwards of green matter.
14. Distension and tenderness of stomach. Pain and burning of stomach.
15. Abdomen swollen and hot. Intense pain in abd.
16. Great difficulty in passing urine.
17. Uterine hæmorrhage.
18. Soft parts of the neck appeared down at every effort of inspiration, and the lower jaw descended. Stertor, followed by unsuccessful heaving of the chest during expiration. Expiration slow and without assistance from the respiratory muscles ; the chest seemed to fall together from its own weight.
19. Pulse fluttering, feeble, slow, intermittent, irregular.
20. Twitching of muscles. Convulsions. Rigidity of whole body. After convulsions, patient passed into an apparently apoplectic state with stertorous breathing and slow pulse, Could not be roused, but would immediately dose away.
21. Rigors followed by fever. Considerable fever, and pain similar to labor pains. Skin dry and parched.

Remarks : JUNIPERUS VIRGINIANA has produced violent diarrhœa even unto death, and may, other symptoms corresponding, prove curative in appropriate cases. It requires, however, further provings for the development of precise differential symptoms.

Gleanings from Contemporary Literature.

THE HOMŒOPATHIC TREATMENT OF ACUTE MANIA.

By WM. MORRIS BUTLER, A.M., M.D.,

Brooklyn, N. Y.

IN the treatment of Acute Mania the physician should constantly bear in mind that he is dealing with a very sick patient. Whatever evidence of bodily strength may be displayed, it must be remembered that this strength is spurious, and that the disease is rapidly exhausting the victim's mental and physical vitality. The patient should, therefore, be immediately put to bed and kept there, by mechanical restraint if necessary, until convalescence is fully established. Abundant liquid nourishment, in the form of soups, beef tea and milk, must be administered at regular intervals. A sponge bath, with alcohol and water, night and morning will greatly add to the patient's general comfort, and help to soothe the nervous excitement. Great care should be taken that, in his violent struggles, he does not become bruised or injured. Where mechanical restraint becomes necessary, constant watchfulness must be observed that the circulation be not disturbed and that no abrasions of the skin occur. While constant watch must be kept night and day, it is desirable that no more persons should be about the patient than are absolutely necessary for his care; perfect quiet of body and mind being, as far as possible, afforded the sufferer.

In medication Homœopathy has proven itself far superior to any other school. Possessed of numerous drugs capable of producing delusions, illusions and hallucinations of every form in the healthy prover, it is able to banish these dread chimeras when appearing as the result of disease. No other school has so complete an armamentarium, and the homœopath needs but to study his *materia medica* to make himself the master of every curable form of mental malady. Select the remedy which, from its mental and general symptoms, is the closest similar to the case in hand and stick to it, and the result will surely reward you. If the patient does not sleep as much as you would like, at first, do not get discouraged, as one hour of natural sleep is better than many forced by narcotics. Sleeplessness is but one symptom, and as the disease yields to treatment sleep will come naturally and with it mental rest and healing. Numerous harmless adjuvants in the form of warm baths, hot milk, or hot malted milk, may often aid the chosen remedy when persistent sleeplessness prevails. General massage in some cases, is also effectual. When this mode of treatment is strictly adhered to, the patient is ready, as soon as the excitement subsides, for a rapid convalescence and does not have to be cured of the ravages often made in the brain by poisonous narcotics.

The following list of remedies, with their indications, which we append, are those which we have found most often helpful in our experience with these cases during the past twenty-one years. •

Aconite.—Great fear and anxiety of mind, with great nervous excitability. Afraid to go out, to cross the street, or go where there is any excite-

ment. Fear of approaching death, darkness, ghosts, crowds, or some accident. Imagines that some part of the body is deformed. Confusion of thought, with weakness of memory and inability for mental labor. Unsteadiness of ideas, rapidly changing from one to another, one moment sad, the next gay. Irrascibility. Oversensitive to light, noise and music. Intolerance of pain; cannot bear to be touched or uncovered. Inconsolable anxiety. Excessive restlessness. Nightly delirium. Humming, singing, roaring and ringing in the ears.

The prevailing characteristic mental condition of the Aconite patient is intense fear. This remedy is chiefly beneficial in the beginning of the disease, when there is a high fever, with hot skin, rapid pulse, elevated temperature, great thirst, and constant restlessness. It is often helpful in the beginning of the disease even if some other remedy has to be called in to complete the cure.

Agaricus Muscarius.—Furious, fearless, menacing frenzy, which causes the patient to assail and injure himself and others.

Imagines himself a military officer, commanding at a drill, and directing the various manœuvres. Incoherent talking, passing rapidly from one subject to another. Imagines himself at the gate of hell, sees his dead relatives in heaven. Great excitement—leaps, dances, sings, with great loquacity and exaggeration of senses—a small hole appears to be a frightful chasm; a spoonful of water an immense lake. Excitement followed by sleep and great prostration upon awakening.

Especially indicated in cases complicated by Chorea, or symptoms of Nervous Prostration.

Anacardium.—Fixed ideas that he is double; that there is no reality in anything; all appears like a dream; that the body and mind are separated; that a stranger is by his side. Imagines that her husband and child are not hers; fondles, then pushes them away. Thinks he is a demon. When walking feels as if some one were pursuing; suspects every one around, and is constantly apprehending trouble. Continually under two influences, one inciting to murder, the other urging him to be good. Imagines he hears voices of mother and sister, who are far away. Has a devil whispering blasphemous words in his ear. Constant irresistible inclination to curse and swear.

The Anacardium patient is chiefly characterized by his ugliness and frightful profanity. Constantly persecuted by hallucinations of hearing, a continual strife is waged in his mind between good and evil influences which strive to gain the mastery of him.

Apis Mellifica.—Mental excitement, with great talkativeness, jealousy, and sexual invitation. Irritable and fidgety; nothing seems to satisfy. Constantly busy, but does nothing right. Mania in women proceeding from a sexual cause.

This remedy will prove helpful when the peculiar mental state is accompanied by an inactivity of the kidneys, puffiness under the eyelids, and an aggravation of the mental excitement at 4 P. M.

Arsenicum Album.—Sees ghosts about him, and vermin and bugs crawling upon his bed. Hallucination that there is some one by his side who imitates all his actions. Fear that he shall be obliged to kill some one.

While not as frequently indicated in Mania as Melancholia we have had some excellent results with this drug when the peculiar restlessness, thirst, physical exhaustion and midnight aggravation were present.

Belladonna.—Raging, violent fury, bites, strikes and kicks, with an inclination to tear everything to pieces. Excited, delirious, incoherent talking. Fear of imaginary things, wants to run away from them. Sees ghosts, hideous faces, insects, dogs, bulls, the gallows, wicked-looking animals and strange men which pass by her and strive to injure her. Talks much of dogs that he sees around him. Immoderate laughter and foolish manners.

No other Homœopathic remedy is more frequently indicated or as often curative in Acute Mania as Belladonna. The intense cerebral congestion, wild delirium and extreme general hypersensitiveness of all the senses, produced in the provers, is a perfect picture of this disease.

A mistake is often made in giving it too low. We have found it when clearly indicated most effectual in the thirtieth or two hundredth potency.

Camphor.—Violent rage, scratches, spits and bites, tears her clothes and foams at the mouth. Homicidal. Impulse to jump out of window. Talks, shouts, cries and laughs by turns.

Indicated when attending, or following, the stage of intense excitement, great physical exhaustion and prostration are present, and the vital powers are at the lowest ebb. When the cold clammy skin and weak pulse show that fatal collapse is imminent, Camphor often vies with the Veratrums in rallying the vital forces and revivifying apparently hopeless cases.

Cantharides.—Violent, tears clothing and bites at any one who approaches. Sees people long dead; worse at night. Restless, moaning, lamenting, barking like a dog. Constantly attempts to do something, but accomplishes nothing. Intense sexual desire. Eyes bright, pupils widely dilated, face yellow, and wrinkled with a constant frown and expression of extreme suffering. Strong tendency to swear. The slightest touch aggravates the symptoms, as also does any dazzling object, as a mirror, or glass of water.

Cantharides is chiefly useful when the patient is subject to terrific outbursts of rage, in which he barks and bites at those about him. Tortured by an intense sexual desire, he constantly seeks relief in masturbation.

This remedy is frequently indicated when the exciting cause of the disease has been masturbation. Associated with this mental group we usually find the characteristic bladder symptoms of Cantharides.

Chamomilla.—Excessive irritability, impatient, snappish, spiteful, fretful, cannot give a civil answer. Always out of humor. Cannot endure to be spoken to, touched, or to have any one near. Constant moaning and muttering. Hallucinations of hearing preventing sleep at night. Mental condition worse during menstruation.

Calcarea Carbonica.—Visions of faces and persons when eyes are closed.

Delirious talk about fire, rats, mice and murder. Sees cats, curs and other animals about him, and fights them off. Imagines some one is walking beside her; that something hanging over the back of a chair is a person sitting there. Desire to go home.

Calcareæ Carbonica is only beneficial when, in addition to its peculiar mental symptoms, its general constitutional symptoms are present.

Cimicifuga.—Hallucinations of sight; sees rats, sheep about him. Thinks some one is going to kill him. Sleeplessness. Suspicious, wild, crazed feeling in head, incessant talking, constantly changing from one subject to another. Great restlessness; cannot keep still. Patient seems to be conscious of what he is doing, but cannot control himself.

Cimicifuga is chiefly useful in rheumatic subjects, and where the delirium has been caused by drink, or where the mental disease is associated with or caused by uterine disorders.

Hyoscyamus.—Great mental excitement; constant silly incoherent talk. Changeable mood; crying, laughing, scolding, singing. Restlessness; great aversion to lying in bed, desires to run about the room and dance. Constantly in motion. Mischievous. Changeable delusions; fear of poison, of being betrayed, sold or injured. Great sexual excitement, with much lascivious talk, and constant desire to expose the person and remain naked. Insane jealousy. Sleeplessness caused by the excessive mental and physical activity.

Hyoscyamus is one of our most useful remedies. While the patients are very excited, they have not as much arterial disturbance, and are not as ugly as the *Belladonna*, and are less wild and more easily controlled than the *Stramonium* patient.

The one characteristic delusion is fear of poison, and when this is present *Hyoscyamus* will rarely fail to remove it and help the general condition of the patient.

The intense sexual excitement naturally suggests its applicability to *Nymphomania* and *Puerperal Mania*, and no drug is more frequently curative in these forms of insanity.

Nux Vomica.—Oversensitive, cannot tolerate noise, talking, strong odors, or bright light. Obstinate, cross, ugly and quarrelsome. Restless and uneasy. Dissatisfied with everything about him.

No case is more disagreeable than a *Nux* maniac. Opposed to everything that is done for him, ever ready to fight with those about him, he may, from pure cursedness, refuse to eat or drink, and require forcible alimentation to keep him alive. While presenting no marked delusions, from an apparent perversion of the whole moral nature, these patients are often among the most difficult to manage.

With these marked mental symptoms we find the usual characteristics of *Nux*, so that one is not likely to make a mistake in the selection of the drug. When indicated we have found this remedy one of the most satisfactory in its results, although it is often slow in its action and requires to be continued for some time.

Phosphorus.—Violent delirium, with restlessness, fear of death and constant desire to escape. Loud screaming, with attempts to bite and strike those about him. Hallucinations of sight; sees faces leering at him wherever he may look. Nervous excitement; starts at the slightest noise. Intense sexual desire, with entire shamelessness and constant attempts to remove all clothing and go naked. Imagines that he is in several pieces, and cannot properly adjust the fragments. Irritable, fretful and peevish.

Although not as frequently demanded as some other drugs Phosphorus is exceedingly satisfactory when indicated. One of its most positive indications is the presence of hallucinations of sight, "faces peering from every corner"; with this symptom present we have never failed to relieve the patient by the exhibition of Phosphorus. It is most frequently demanded in cases with sexual excitement, and where the disease has arisen from a depleted state of the brain and general nervous system.

Platina.—Illusions—everything about her seems small, and all persons about her physically and mentally inferior to her. Thinks she does not belong to her own family. Arrogant. proud. Treats in a contemptuous and pitiful manner people usually venerated. Changeable mood, great joyousness alternating with sadness and depression. Anxious, morose, quarrelsome, peevish, irritable.

The ever-present proud, arrogant, contemptuous mood will preclude any possibility of mistake in the selection of this drug. It is most frequently indicated in women with a tendency to Nymphomania caused by irritation and excitement of the Genitalia.

Spongia.—Happy, joyous, with a constant irresistible desire to sing, followed by distraction of mind and disinclination for all work.

Especially valuable in cases with a tubercular diathesis, and in patients subject to glandular enlargements, or where organic disease of the heart exists.

Stramonium.—Delirious, violent, foolish, noisy, joyous, furious, maniacal. Delirium of fear, as though a dog were attacking him. Violent, delirious, with hallucinations of sight; sees bugs, cats, dogs, rabbits and horrid beasts on all sides of him. Aggravation from the darkness, being alone, and in the morning. Ameliorated by light and company. Constant movement of the limbs during excitement. Great aversion to fluids, the sight of which, at times, will almost produce convulsions. Incorrect ideas of distance and the size of surrounding objects. Screaming, catching and striking at frightful imaginary spectres, which fill them with the utmost terror. Furious, bites and strikes at every one who approaches. Fear, with sensation as if the bed was being drawn from under her, and that everything was falling on her. While sitting on sofa kept holding on to everything to keep from falling off. The horrifying images appear at the side more often than in front. Sees black objects, black people and black clouds. Has a constant vision of an executioner standing before him; laughs and jokes about the hallucination, although it seemed a reality. Things and persons around him appear to be changed. Imagines that he is alone and abandoned in a wilderness. Talkative. Imagines that he is very large and tall

but surrounding objects are small. Hallucinations of hearing ; hears dancing, music and men talking in foreign tongues. Hears a voice under the bed at night. Exposes genitals.

While representing by its provings a wide range of mental symptoms, Stramonium has achieved its greatest curative triumphs in the severest class of cases.

When the delirium is wild and furious, and the patient is possessed by the most fearful delusions and hallucinations, then is Stramonium most clearly indicated and seldom fails to bring speedy relief. Soon banishing the horrid fiends and haunting images which have driven the sufferer into a perfect frenzy, Stramonium quiets his fears, quells his excitement and soothes him into a restful sleep, which is the first step in the return to health and reason. In the delirium of Acute Mania, Epileptic Insanity and Delirium Tremens, no other remedy is so often indicated or so frequently curative.

Veratrum Album.—Delirium, with coldness over the whole body and cold sweat on the forehead. The patient prattles about religious subjects and vows to be performed. Imagines he is a prince and behaves in a haughty manner. Persistent raging, with great heat of the body. Noisy cursing, howling, with frequent attempts to escape. Imagines she is pregnant and in labor. Runs about howling and screaming, worse in the evening. Ill-humored, irritable, vexed from slightest cause. Nymphomania, with violence and destructiveness, sexual excitement, with lewd lascivious talk. Rushes about the room and tries to kiss every one. Hallucinations of sight ; room appears full of people, with whom the patient converses for hours. Sleeplessness, with constant talking and loud laughter.

The furious delirium of Veratrum Album, with violence and destructiveness, resembles that of Belladonna and Stramonium. In Veratrum Album however, we have much greater physical exhaustion, evidenced by a weak pulse, coldness of the body, and cold sweat on the forehead. The Veratrum patient must have speedy relief or die. Veratrum Album is specially efficacious in Mania occurring in women where the disease is dependent upon some disorder of the sexual organs, and is aggravated at each menstrual period. Veratrum is often curative in Puerperal Mania.

Veratrum viride.—Furious delirium, with screaming, howling and striking. Delirium with incessant muttering. Silent, suspicious, fears being poisoned. Sleepless. Loquacity, with exalted opinion of her own ideas and powers.

Although few mental symptoms can be found in its provings, Veratrum Viride has shown itself to be one of our most valuable adjuvants in the treatment of mental disease. In acute Mania, or whenever an extremely high temperature, hurried respiration and rapid pulse exist, and death seems imminent, Veratrum Viride will often, as by a miracle, rescue the patient when apparently beyond human aid.

Its sphere of usefulness, however, seems limited to the resuscitation of the physical powers, and when this is accomplished little can be expected from it as regards the restoration of the patient's reason.—*North American Journal of Homœopathy*, Feb. 1896.

THE INDIVIDUALITY OF ARSENIC.

BY WILLIAM BOERICKE, M.D., SAN FRANCISCO, CAL.

(Read before the California State Homœopathic Medical Society.)

THE human organism in health is an ideal community of separate interests, working together for the common good,—each organ performing perfect work for the benefit of the whole organism and receiving in turn the exact quantity and quality of supplies needful for its functional activity. All is harmony, and consequently health. Introduce a drug and this harmony is disturbed,—disturbed by each drug in a way peculiar to itself; every drug being the embodiment of some distinctive force, the character and quality of which cannot be known except just in one way, that is, by proving the drug on the healthy human body.

It is the privilege of the physiologist to study man's bodily organization, ensouled with its distinctive life in every part, and it is the special privilege of the homœopathist to study the same living body when influenced and dominated by medicinal forces.

No one before Hahnemann had imagined that each drug ran through the frame and evoked fresh symptoms from organ to organ, that each drug could thus become an organised entity of symptoms, possessing individuality of its own,—a distinctive character.

This idea is a creation of homœopathy. It was impossible before; useless as well before *similia similibus curantur*, the law of drug selection was practically applied. For purposes of homœopathy, the general indications that are sufficient to the old school, are found to be insufficient. For us a much more minute knowledge is required, which when obtained, will enable us to determine, to some extent at least, the drug's individuality. Proving on the healthy alone, reveals a drug's peculiar disease-producing power. Then by the Hahnemannian application of the law of cure, and by the marvellously simple pharmaceutical procedures, we are enabled to convert this disease-producing power into a healing influence,—a disease-curing power. We are enabled thereby to convert malignant into benign forces, reminding us of the words of Mephistopheles, who when asked who he was, replied, "I am that power that ever seeks to do evil, yet accomplishes good." "Ich bin die Kraft die stets das Böse will und doch das Gute schafft."

The individuality of a drug, when known, is the determining factor, the court of final appeal, as to the value of all the symptoms. As in diagnosis, similar symptoms may mean wholly different things, dependent as they may be on different pathological causes, so similar symptoms may be guiding ones or not as they correspond to the genius of a drug and express its individuality. Thus the congestive symptoms of aconite and of iron, may bear and do bear much outward resemblance, but we know in the one case they express a true plethora and in the other a pseudo plethora; in the one a sthenic inflammatory condition, in the other an asthenic one, with corresponding differing applications.

What homœopathist, at all removed from the crude methods of the old school, does not at the mere mention of arsenic, have a distinct mental pic-

ture unmistakably characteristic, that close observation at the bedside in time chisels into cameo-like clear cut outlines ?

From a study of the provings and the clinical experience of a century of homœopathy, we are enabled to familiarize ourselves with the individuality of this greatest of drugs—arsenic.

We cannot imagine a more determined enemy to every manifestation of healthy life than arsenic. Its sphere of action extends over every organ and system of organs of the living frame. From the very full and thorough provings we have of the drug, we can see and infer that in its essence, arsenic must be the embodiment of a terribly obstructive and destructive influence, one not satisfied with mere functional disturbance of the life of the organism, but poisoning and disintegrating the blood, thus destroying the source of organic life ; or again setting up insurrectionary currents of self seeking life in individual organs, which in consequence fail to serve the whole economy and set up local centres of perverted function, favoring thus the production of tumors and cancerous degeneration. A destructive tendency of the whole, or of a part seems to be the special field of arsenic.

Such malignant force seeks a corresponding environment, in which it revels and where it can produce its most characteristic work. You know all drugs choose certain temperaments and constitutions, certain states of the weather and certain times of the days and season, in which they are especially active. Such favoring conditions or modalities, give full play to the peculiar activity of the drug. They give us the most important guiding symptoms. Some of these are very characteristic in arsenic.

A special favorable ground for the action of arsenic, is the blood poisoned by malaria, by decayed or morbid animal matter, by malignant morbid germs, or the ground prepared by ptomaines.

A body, worn out by chronic disease, by malignant growths, or brought to rapid prostration and sudden collapse by the invasion of some violent acute disease. While the body is thus racked and ruined, the mind is taken possession of by the diabolical arsenic force. A terrible anxiety,—despair of life, and yet absolute fear of death torture the poor victim, until the end. Such is the type in its extreme form of arsenic, as a disease-producing force. Let us examine analytically, some of the special features of this remarkable drug force.

The first general condition expressing the drug's individuality "is an all pervading debility-dynamic. Before it has time to change greatly the quality of the current of the victim's life, it diminishes his vital energy. Hence weakness, prostration, lassitude. They are so peculiar to arsenic, that as Hahnemann says, even unimportant and otherwise trifling circumstances produce a constant and complete sinking of the strength of an individual laboring under a disease indicating arsenic. This sudden and rapid sinking of the life forces, this æsthenic state, is most characteristic. It characterizes the whole symptomatology of arsenic. *Great exhaustion after the slightest exertion, is the key-note.* It may be a mere sensation of weakness, or it may be that, increasing to paralysis and total collapse of

strength as seen in some cases of arsenical poisoning, in which there are few signs of irritation in any part of the alimentary canal, but the patient is chiefly affected with excessive prostration of strength and frequent fainting, death coming on in five or six hours. An analogous condition, we find in certain diseases, diphtheria and especially grippe, where prostration seems quite out of proportion to the disorder which accompanies it, and we all know the homœopathicity of arsenic here.

But, this is but one-half of the picture. Intimately associated with this debility, is a peculiar *irritability of fibre*, and hence we obtain, as a perfect expression of the arsenic state, a condition of *irritable weakness*, shown by great restlessness.

We have all watched some caged wild beast—its continuous restlessness ; this is the arsenic spirit. It is present and prominent in the worst arsenic cases. Death may be near, the patient worn out, but there is no quiet peaceful anticipation of the end ; only anxiety, restlessness, frequent and constant change of position, violent delirium ; even when the patient lies in stupor, this is broken by anxious moans and restlessness. No peaceful sleep soothes him. He jerks and starts and his dreams are frightful and fantastic. The arsenic restlessness, is an irritability of fibre, of flesh, bone, brain and mind. He moves constantly. He goes from chair to bed, from bed to chair, from one room to another. When too weak to escape the anxiety by moving about, and arsenic weakness sets in, the most horrible picture of fear and despair is depicted in his face, a mental and bodily horror.

The irritability of fibre, expressed as bodily and especially mental restlessness, is arsenic's most characteristic feature. Have you a patient worn out by disease, weak, anæmic, prostrated, going deathward, just the case for arsenic, you think. It is, if he has this restlessness, this irritability of fibre. But if he is quiet, apathetic, indifferent, stupid, it is not arsenic, though you may point out to me ninety-nine other arsenic symptoms, yet the very soul of these symptoms is lacking, their very meaning and application to this case, is lost, if this great feature of arsenic is not present. But it is in the mental symptoms, that the individuality of arsenic is most graphically exhibited. The mental condition of arsenic is the principal fact from which the remainder flow organically and logically ; it is the common denominator of them all.

MENTAL SYMPTOMS OF ARSENIC.

We find in arsenic a great amount of anguish—the greater the suffering the greater the anguish. Great restlessness.

Fear of death. Fears to be left alone, lest he should do himself bodily harm. Great fear with cold sweats, cannot find rest anywhere. Is intensely suicidal. Feels that it is useless to take medicine as he is surely going to die. Melancholy, intense anxiety.

Patient has hallucinations of smell ; smells pitch and sulphur ; it is the arsenic foretaste of immortality for he anticipates confinement in hell.

Now how are you going to distinguish aconite ?

It is restless, fearful, afraid of death. The two remedies are wholly dif-

ferent. Aconite is a sthenic remedy, the blood rushes through the organism, bounding and throbbing—a healthy blood, but excited, inflamed. Arsenic on the other hand, has a depleted system, a poisoned blood, a disorganized blood, insurrection in some part of the organ has taken place, a cancerous [anarchy established in some region or organ, its excitement, anguish, restlessness is based upon its nervous exhaustion, its worn out condition, it's a cry for healthy blood ; therefore the arsenic patient is cold and chilly and weak, nervous and sensitive. Do you wonder at his longing for death ; his suicidal tendency—his despair that makes him imagine that he must die—the despair driving him from place to place—he wrings his hands, he is going to mutilate himself, kill himself, this very night, after midnight, the last part of the night, so great is his despair of life ; but his excessive fear of death is even greater. He is a coward at heart. He fears not only death, but ghosts and thieves. He hears voices, sees demons, rats, mice, bugs, worms, from which he attempts to escape by hiding.

Such a mental state we frequently encounter from causes that have greatly exhausted and debilitated the patient's general condition, as from anxiety, overwork, loss of sleep, chronic digestive troubles, etc.

Again, the typical arsenic mind is miserly, covetous, malicious ; morbidly bent on money-making ; he lacks moral courage, intensely selfish, cherishes none of the finer feelings of human nature—hence his diseases are correspondingly repulsive—ulcers, cancers, degenerations, etc.

Clinically, we find that the longer a disease has lasted, the more deeply the organs and tissues have become affected, the more certainly deathward the tendency, the more surely will arsenic be indicated. Now, on the contrary, arsenic is but rarely the remedy in the beginning of disease, unless it be in a disease characterized by similar *rapid and sudden prostration* ; but, as a rule, it comes in later, after other remedies.

I have already pointed out the tendency of arsenic to local insurrection against the well-being of the organism as a whole. It favors strikes in certain districts. Arsenic is full in its symptomatology of such local anemias, cutting off the supplies necessary for the functional activity of any organ or series of organs, and thus, in consequence, arsenic has a tendency to produce ulcerations, or molecular death, gangrenous ulcers, ulcers with black sloughs ; edges turn black, with almost constant burning in ulcers, burning watery discharges from them.

All the stages, therefore, from slight disorders in the vegetative sphere to the production of dyscrasia, cachexia, decomposition and dissolution of the organic tissue—gangrene—are the legitimate field for arsenic, and homœopathy avails itself of this potent drug in these conditions when the constitutional symptoms call for it, independent of merely local indications, the constitutional symptoms being those expressive of the individuality of the drug. As a general designation, Hughes speaks of this special characteristic feature of arsenic as *malignity*, by which is meant that condition which may appear in any acute disease—scarlatina, diphtheria—a condition especially shown by darkened color of the blood and fetor of its excretions

and exudates, with corresponding prostration and disorder of the nervous system. In all fevers, eruptive diseases and inflammations, where this tendency to putrescence and decomposition shows itself—a condition common to all acids and some animal poisons—arsenic is one of the chief remedies to bear in mind, provided the special symptoms present indicate it.

It will be found to correspond to many forms of destruction of tissue common to cancerous formations ; here the rapid emaciation, in spite of fair appetite, points to it. This progressive emaciation, more or less rapid when the patient is eating well and there is no sufficient cause for it, is peculiar to arsenic and to iodine. It is a suspicious symptom, and should always attract the physician's attention.

With this feature of malignity, we can pass on to the peculiar arsenic sensation, which is pre-eminently burning—burning pains and sensations everywhere ; intense burning, as from coals of fire, in abdominal cavity, in skin, in mouth, throat, in chest, stomach, in mucous membranes generally, in its ulcers and vesicles and swellings—burning sensation everywhere ; the affected parts burn like fire, still wants to be covered up warmly. There is a burning thirst ; it is an early and very marked symptom of its action on the healthy body, and is always present in febrile states to which it is suitable. One proving gives it as follows : “Thirst so violent that he drank eleven jugs of water in half a day.” Now, with this great burning thirst it produces a very irritable state of the stomach—a true gastritis—and hence but a small quantity of water can be taken at a time ; hence, the further clinical feature of the arsenic thirst—little and often—a very short time between drinks. Remember that the burning, unquenchable thirst for cold water drinks frequently, but little at a time ; the stomach cannot tolerate or assimilate much cold water. So while the patient may greatly long for it, he cannot drink it except in sips ; he wants to moisten lips and mouth frequently.

We all know the great importance of modalities in making a homœopathic prescription—the conditions of aggravation and amelioration. They are especially important and pronounced in arsenic.

1. *The symptoms are worse at night, especially after midnight—1—3 A.M.* Now the restlessness, the anxiety, the cough, the diarrhoea, pains itching and burning, the asthma, the valvular troubles—in short, any peculiar arsenic condition—are then apt to be worse.

2. *Worse at rest.* We can readily see this if we bear in mind the irritability of the drug. He cannot rest in any place, changes position continually ; he imagines he gets some relief by so doing. Lying down greatly aggravates coughing and breathing.

3. *Worse from cold.* Especially marked is this in the neuralgia, calling for arsenic during night and by cold air infringing on the surface. Cold weather increases troubles, cold food and ices ; arsenic is a cold remedy. Skin is pale and cold, patient is cold or chilly, hence the amelioration.

4. *Better by warmth.* Arsenic particularly likes to sleep between lots of bedclothes, even in summer. He hugs the fire ; it is one of the great comforts of his suffering life. He likes a hot-water bottle. Arsenic always wants to be wrapped up warm, wants warm things—drinks, etc.

Periodicity. This is another characteristic feature of the peculiarities of this drug's action. It is one of the few medicines capable of inducing a true recurrent fever and remissions, intermissions, and more or less regular returns of the symptoms are noted by all observers.

Periodic recurrence is thus a true feature of its pathogenic influence. In typical diseases of all kinds, says Hahnemann, the type-exciting property of arsenic in small doses becomes valuable. Complaints return annually, every two weeks. It is one of the great remedies for malarial poison—possibly the greatest for the cachexia, as well as for many typically-returning affections. The type itself is changeable, and the intermissions are rarely entirely pure.

Such are the chief features of this wonderfully distinctive drug force, as manifested, when given full sway in the comparatively healthy body. Such are the general indications for the use of arsenic whenever met with in diseased conditions.

The 1281 symptoms recorded in Hahnemann's *Chronic Diseases* as belonging to arsenic are interpreted and simplified, and justified as well, by the recognition of the genius, the individuality of arsenic, of which they bear witness and which they express in 1281 different voices.

We see, thus, that when we enter the realm of *materia medica* through the gate of drug-proving on the healthy, and guided by the law of similars, we find ourselves on a great mental highway leading to practical uses of drugs based upon recognition of their distinctive organic individuality.—*The Hahnemannian Monthly*, February, 1896.

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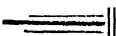
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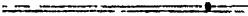
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VOL. XV.] April. 1896. [NO. 4.

CELEBRATION OF THE 141ST ANNIVERSARY
OF HAHNEMANN'S BIRTH-DAY.

THE meeting of the Hahnemann Society of Calcutta, in celebration of the 141st birth-day of the founder of Homœopathy, was held on Friday, the 10th April, at 7 p. m., at the Lecture Hall of the Indian Association for the Cultivation of Science, 210, Bow-Bazar Street, under the presidency of Dr. Mahendra Lal Sircar, President of the Society. The date of Hahnemann's birth, according to his own account in his *Auto-biography*, is the 10th April 1755; but the baptismal register of Meissen, the town in which he was born, makes it "the morning of the 11th of April," and accordingly the hundredth birth-day was celebrated at Meissen on the 11th (and not on the 10th) April 1855. We suspect, from the fact of Hahnemann himself having given the 10th April as his birth-day, the "morning" of the baptismal register must have been the *early* morning, so as to come within the limits of the 10th according to the ordinary mode of reckoning the day from day-dawn to day-dawn, and not according to the astronomical method from midnight to midnight. We are therefore inclined to think that the celebration of Hahnemann's birth-day should more

appropriately take place on the 10th, rather than on the 11th April, though we are aware that the latter date is being preferred by our American Confrères.

The attendance at the meeting was very good, better than in many previous years. With the exception of one or two all the regular practitioners of Homœopathy were present, and there was besides a large number of laymen, all zealous believers and advocates of the system. In the absence of the Honorary Secretary, Dr. Pratap Chandra Majumdar, who owing to pressing calls was late in coming, Dr. Aksay Kumar Datta, at the request of the President, read the report of the last anniversary meeting, after which Dr. Sircar called on Dr. W. Younan to read his promised paper which we have great pleasure in giving *in extenso*.

DR. YOUNAN'S PAPER ON INFLUENZA.

Mr. President and Gentlemen,

I had the honor, at the last birthday meeting, to read you a paper on Vaccination and Small-pox from the standpoint of Homœopathy, and I was glad to find that the interest in the subject was not confined to our profession alone, but was shared in by the lay public to some extent, since one of the daily newspapers made a lengthy extract from my paper, and commented favourably on it.

Fortunately the small-pox epidemic has ceased to be, but we have had to contend against other evils, of which Influenza and Cholera have been the chief. Influenza has been with us as an epidemic for months past, and is only now on the decline. Not a family but could tell us a lot about the disease and its unpleasant consequences in one or more of its members, and we doctors have also a lot to say to each other on our experience of the late epidemic.

Time was when Influenza was by no means a common disease in India, but occurred epidemically at long intervals. Since 1890, however, when a large wave of the disease passed over us, it may be said to have stayed with us and become endemic; for, since that time, the name of Influenza has been in every body's mouth, and the profession has been particularly active in devising measures, offensive and defensive, against its attacks. We of the homœopathic cult, however, have, in the case of Influenza, as in that of most other diseases, pursued the even tenor of our way,

and, confident in the powerful assistance of our infinitesimals, refused the heavy armamentarium of the old school in the fight against germs and their evil doings.

It was with much pleasure, therefore, that I responded to the invitation of our assistant secretary to read a paper before this meeting in commemoration of the anniversary of Hahnemann's birth, and I decided at once to write on Influenza and its homœopathic treatment, making the subject, as far as I could, of clinical interest chiefly. Of course, the narrative of individual experience in any disease is by no means sufficient for the purposes of our Therapy, so that I invite the experience of every one of my colleagues here present, and I shall be happy to benefit by it. Permit me here to thank you for the honour conferred on me in requesting me to read a paper before this meeting, and I hope your indulgence will be as freely given to faults and shortcomings as on the last occasion.

I am not going to give you a systematic account of Influenza, its symptoms and treatment, such as is found in every text-book of medicine—nor do I intend to vex you with theories of its causation and propagation. Sufficient for our purpose it is to know that Influenza is an epidemic catarrhal fever, which spreads rapidly from locality to locality, and chiefly by air infection apparently—that the disease varies in severity in different individuals and in different localities—and that the treatment is not and cannot be uniform in all cases, but must be guided by the individual symptoms of each case. In fact, the treatment of Influenza is no exception to the general rule of Homœopathy, that the *name* of a disease is not to be treated, but the *patient himself*. No matter if the same kind of germs be found by the thousand in different cases of Influenza—no matter if the same coarse pathological changes be met with—if the peculiar, individual, characteristic symptoms do not correspond, then each case will require treatment on its own merits and need probably a separate prescription. I have given you no systematic description of Influenza as found in text-books. But for clinical purposes it will be well to point out—(1) that there are cases of simple uncomplicated Influenza which run their course in a few days and are a little worse than an ordinary cold—(2) that cases occur where the disease is complicated with respiratory affections, more

or less severe, bronchitis and pneumonia being especially common and especially to be feared, these complications having been the cause of nearly all the cases that have proved fatal in this and colder climates—(3) that the disease is characterized by an amount of prostration entirely disproportionate to the physical changes present, Influenza being apparently a blood and nerve poisoner—(4) that influenza often modifies the course of other diseases which usually prevail at the same time and place—the continued fevers for instance. It is important to bear this in mind as much for the sake of diagnosis as of treatment.

It goes without saying that certain constitutions are more predisposed to Influenza than others. I, for one, have never been able to escape it since 1890, when the disease was first epidemic here, to my recollection.

At the beginning of this year I went through my third attack, which, like the preceding ones, was pretty severe, and during which I had the opportunity of closely watching the effects of homœopathic medicines in the different stages of the disease. I am of opinion that constitutions that are markedly psoric are more liable to take the infection of Influenza, just as the same constitutions are more easily infected by the malarial poison. This was Hahnemann's remark in writing on Intermittent Fever, and each one of us can corroborate it either personally or from the experience of others. My susceptibility to the malarial poison is also very marked, and so is that of more than one member of my family. We are all more or less psoric, and my general good health of late years has been entirely due to careful antipsoric treatment.

In connection with this subject I remember what an intimate friend of the late Dr. Woodford told me of his peculiar susceptibility to malarial fever. The doctor, who practised many years in Calcutta, could never *drive* through Entally in those days without feeling feverish. Of course Entally was not drained in the days of Dr. Woodford as it is now, but it is not three years since my own experience of Entally was pretty similar and instructive. In some of its symptoms Influenza resembles Intermittent Fever, with its cold and hot and sweating stages. Let pathologists and etiologists tell us what connection there is between the two diseases—are they sisters or cousins or collaterally related?

We homœopaths, however, want their symptoms and manifestations only for the purposes of our Therapeutics.

If now I relate some of the more characteristic cases of Influenza that have come under my care since the beginning of the late epidemic, and draw your attention to the therapeutic points which characterised them, you will be good enough to relate your experiences also, so that we may accumulate a quantity of therapeutic evidence in favour of the homœopathic treatment of the disease. We know what dreadful havoc Influenza made in England a few years ago. A comparison of allopathic with homœopathic statistics showed a big balance in favour of our system of treatment. What chance of a similar comparison have we here, with no hospitals and well-organised dispensaries at our command. It is individual work only, I fear, and *there* is the disadvantage we labour under.

The first case I shall describe is my own, as I am most familiar with it:—In the afternoon of the 28th of last December I accompanied some friends to a steamer party on the river. In the evening a few of us got into an open boat without hats or caps, and I pulled an oar upstream for more than an hour, but felt hardly any fatigue and certainly no chill. I was in the best of health and thoroughly enjoyed my outing.

Next morning, on awaking, I felt a slight irritation in the larynx, with frequent inclination to clear it of some adhesive mucus. This increased as the day went on and led to a short dry cough, with a little feverishness in the afternoon and evening, and aching pains in the back and limbs. The pulse was full and rapid and the face flushed, but I got no relief from a dose or two of Aconite 200. These symptoms continued for two or three days, getting more aggravated each day—but I fear I was imprudent in bathing every morning and attending to some urgent cases, which required attendance even at night.

It is a good rule, in the treatment of Influenza, to prevent changes of temperature from the beginning of the illness, and to forbid bathing even in warm water. The patient is usually so chilly and susceptible to atmospheric changes that there is risk of respiratory complications occurring. The advice, given by doctors to their patients during the late epidemic in England, to go to bed at the outset of the disease and stay there till they recovered or died, was as sound as it was efficacious.

Even in a warm climate like ours a neglect of this precaution has done much harm, and in my case, who tried to battle against the disease, the illness was, I believe, prolonged. Fever set in on the morning of the 1st January and rose to 103° F by the evening, accompanied by severe frontal headache and pains in the back and limbs. The pains made me restless and fidgetty and change of position was ameliorating rather than aggravating. Pressure on painful parts was very grateful, and these symptoms combined suggested to me the use of *Eupatorium perfoliatum*. A dose of 6 pellets of the 200th was taken, and the relief was as speedy as it was expected. Perspiration came on in a few hours and I fell asleep and awoke next morning free of fever and pains and aches. It was noteworthy that, while the fever lasted, the cough was in abeyance, but became troublesome during the apyrexia and continued so for days together.

I frequently noticed since that some people began their Influenza with marked coryza and cough, on which the fever supervened, and others, where chills and fever ushered in the disease and coryza and cough supervened on the apyrexia. These two types have been very marked, and I may add a third which has seemed to be *dry* in all its stages—a sort of Influenza sicca, which is apparently a contradiction in terms.

After the fever had left me, I suffered much from anorexia, nausea and vomiting. These, together with the cough, made life very miserable for three or four days, during which I was surprised to find that such well-recommended remedies as *Nuxvomica*, *Ipecac*, *Sulphur*, *Mercurius*, *Phosphorus*, etc., did me little or no good. I am so sensitive to the action of the right remedy, that, if the first dose of a medicine does not relieve, it is perfectly useless to take more. This has been my experience with homœopathy from the first, and will remain so to the end, I think. My cough used to be very troublesome at night, and I noticed once that it began to be whoopy in character, whereupon I took a dose of 3 pellets of *Drosera* 200, and the relief was speedy and grateful. That night, and for three or four succeeding nights, I slept soundly and I felt much relieved of the other symptoms also. A second dose was *apparently* necessary, but did no further good. Here I would like to remind you of Hahnemann's directions in the matter of the dose of *Drosera* in Whooping Cough, and of its

repetition. In the introduction to the proving of the drug in the *Materia Medica Pura* we read the following :—"I first employed it in the trillion-fold dilution of the juice, but latterly in still higher potency, and at last in the 30th (decillionfold) dilution, and of this I gave as a dose only the smallest portion of a drop, to wit, one or at most two globules the size of a poppy seed (of which from 200 to 300 can be completely moistened with a drop of the dilution) in morbid conditions similar to the characteristic effects produced by the plant on healthy persons. Thus, for example, a single such dose is quite sufficient for the homœopathic cure of epidemic Whooping Cough. The cure takes place with certainty in from 7 to 9 days, under a non-medicinal diet. Care should be taken not to give a second dose (or any other medicine) immediately after the first, for that would inevitably not only prevent the good result, but do serious injury, as I know from experience."

These remarks of the Master I can endorse from personal experience in the treatment of whooping cough. Let those who disbelieve try the recommendation for themselves, and their doubts, like mine at first, will disappear.

It was with reluctance, therefore, that I took a second dose of *Drosera*, but the remedy was apparently not the simillimum, and, as my cough became very troublesome again, I took a dose of 3 pellets of *Ammonium Carbonicum* 200, and was charmed with the result; for, day by day, I felt better and better of the cough and the other symptoms, and I felt also as if I had taken a tonic, in the old school sense of the term. I have always believed that that medicine was a true tonic which, in curing the diseased condition of a patient, made him feel stimulated and restored to health. Our old school friends believe largely in tonic treatment, which consists of certain stimulant medicines like Bark, Ammonia, Iron and others, but which often have only a palliative and not curative effect upon disease. Our allopathic friends would go into a fit if we were to tell them that the smallest portion of a drop of Ammonia 30th or 200th was sufficient "tonic" for a case of Influenza.

Since my own experience with *Ammonium Carbonicum* I have used it in many cases, especially those of children, with much success. It has cured the cough of Influenza when everything

else has failed, and I have more than once not found it necessary to give a second dose.

There is a vaunted specific against Influenza—Ammoniated Quinine—which allopathic doctors have largely used in every epidemic of the disease. I have no doubt it has been efficacious in many cases, but I incline to the belief that the Ammonia in the mixture is the principal remedy, and the large dose of it is partly counteracted by admixture with the Quinine and probably other ingredients.

When I first took Influenza in 1890 my medical creed had not then changed, and an allopathic medical friend induced me to take a dose of Ammoniated Quinine. I did not take a second, because the first was so strong, and produced so much tightening of the larynx and chest, that I left medicines alone and trusted to a cure by nature. It is curious to compare my allopathic dose of Ammonia in 1890 with my homœopathic dose in 1896.

You will excuse me, gentlemen, for having detailed my own case at such length. My object was to point out a few clinical lessons that I had learnt myself, and a few interesting therapeutic facts. But there is one point to which I have omitted to draw your attention, and it is this, that Influenza is supposed to be predisposed to by exposure to cold, as it was apparently in my own case. But there are many cases which have no such predisposing history. The disease is in the air apparently and we may find it difficult to escape it.

The action of *Eupatorium* was so prompt and grateful in my own case, that I shall give you another illustrative of its value: A man, ætat 40, came to me complaining of chills and fever which had been alternating for three or four days and attended with severe frontal headache. There were no symptoms of catarrh, but complete anorexia and much thirst. I prescribed *Arsenicum* 200, of which he took two doses without benefit. On questioning him further I learnt that, in addition to the severe headache he had distressing breakbone pains all over the body, which prevented him lying down and made him feel very restless. Accordingly I gave a dose of *Eupatorium perfoliatum* (6 pellets of the 200th) in the afternoon, and he slept in comparative comfort that night, and by morning the fever had left him in free sweating.

For the headache which persisted I gave a second dose of the same magnitude as the first, and no more medication was necessary. This was apparently a case of *dry* Influenza of which I have already made mention.

We are accustomed to read of *Bryonia alba* as a very valuable drug in Influenza. No doubt it is so in the cases which call for it, and I myself have used it more than once recently. We must not forget that *Bryonia* and *Eupatorium* are very closely related both in their pathogenesis and in their therapeutical application. But there are certain differences between them which decide the choice of one or the other remedy in a given case. It is for the purpose of pointing out these differences that I shall relate to you my next case:—A lady, about 36 years of age, took Influenzal catarrh with chills and fever two or three days before I saw her. My first prescription was *Nux vomica* 200 of which she had two doses of a few pellets each. No change, however, for the better occurred, and the patient complained of great soreness of the head and eyes and of the whole body, much aggravated by touch and movement and coughing. In fact the patient feared to move and had pillows put around her to prevent hard pressure. There was a good deal of wheezing with respiration and some nausea and retching. The skin was moist but the temperature ranged between 102° and 103°F. I gave her a dose of *Bryonia* 200 (six pellets) in the morning, and, twenty-four hours after when I saw her again, the temperature had fallen to 99°, the pains and aches had considerably abated, and she had spent a quieter night. A second dose was given and the patient soon convalesced. For the cough that remained I gave a dose or two of *Ammonium carbonicum*.

You will have perceived at a glance, gentlemen, the differences between the *Eupatorium* case and the *Bryonia* case. The *Eupatorium* patient has pains and aches like the *Bryonia* patient, but while the latter fears to move lest aggravation occur, the former is restless and fidgetty and finds some amelioration in movement. Again, the *Eupatorium* patient has a hot dry skin or scanty perspiration only, while the *Bryonia* patient has profuse or easily-provoked perspiration. Besides, *Bryonia* has more respiratory symptoms than *Eupatorium*.

These cases, gentlemen, show us the necessity of carefully

studying the characteristic features of each drug in our *materia medica*, and of imprinting them on our minds by means of clinical images and pictures. Otherwise the study of *materia medica* will be harder and often less profitable.

In the cases I have related above mention has more than once been made of *Nux vomica*, as a remedy in Influenza. I have used it very frequently, and would like to point out its place in the treatment of this disease. First of all, it is a classical remedy in Influenza, since we have the authority of Hahnemann himself for its use. In the introduction to the proving of Camphor in the *Materia Medica Pura* we read as follows:—"When the Influenza, endemic in Siberia, comes among us, as it does occasionally, when the hot stage has already commenced, Camphor is of service, only as a palliative certainly, but an invaluable palliative, seeing that the disease is one of short duration. It should be given in frequent but ever-increasing doses, dissolved in water as above described. It does not shorten the duration of the disease, but renders it much milder, and hence it conducts the disease innocuously to its termination. On the other hand, *Nux vomica*, in a single dose, and that the smallest possible, will often remove the disease homœopathically in a few hours." On the strength of this recommendation I was tempted to give *Nux vomica* to my Influenza patients oftener perhaps than I should have done otherwise. Like every other drug it has its own sphere of action, and will cure the cases it suits and not others. There is no doubt it suits many cases, especially if administered at the commencement of the disease, and I have more than once succeeded in breaking up a threatened attack of Influenza. If there is any prophylactic remedy against Influenza, it is *Nux vomica*, even in the smallest dose. When it is the *similimum* to a case, nothing is prettier or prompter than its therapeutic action. I have many cases in mind illustrative of the success of *Nux vomica* in Influenza, but I shall content myself with relating the case of a little girl, five years old, who took the disease after a number of her family were attacked by it. The fever ran very high (105° to 106° F), and *Aconite*, *Belladonna* and *Gelsemium* had already been administered without effect before I saw the patient. I put a few pellets of *Nux vomica* 200 in three or four ounces of water, and directed that a teaspoonful be

given every two hours till the temperature fell. This was late in the evening, and, when I saw the little patient next morning, she was free of fever, and I was told that sweating had set in shortly after the first dose of medicine and continued till the fever broke. The same prescription was required a day or two after for a younger sister, three years old, and with the same success. Both children required *Ammonium carbonicum* for the troublesome cough that remained.

While on the subject of Influenza in children, I desire to put before you a very interesting and instructive case, which, but for the prompt action of the right homœopathic remedy, would have surely proved fatal:—A tender male infant, three months old, took Influenza from his mother who was nursing him. As the mother had quickly got well under a dose or two of *Nux vomica*, I sent a little of the same medicine for the infant, and heard nothing more till the day after when an urgent message summoned me to the little patient. The mother informed me that the baby had been in fever since she had last written, and that suddenly that morning he vomited freely and forcibly and commenced to choke. It was quite evident that there was some obstruction in the upper respiratory passages, probably the larynx, for the child's breathing was obstructed and attended by a choky sound. My first impression was that, as the trouble arose suddenly after a fit of vomiting, some of the vomited matter might have gone down the wrong way, as the popular phrase goes. Accordingly, I turned the child over a number of times on his face, and even suspended him by the feet, in the hope of dislodging any foreign matter from the larynx, but to no purpose. I left instructions to give the child no food or medicine till I returned in two or three hours, and to keep him in the semi-sitting position, as lying down seemed to make matters worse. I found no change in the little patient on my return, and a little thought suggested to me that this was probably a case of Influenzal œdema laryngis. It is not a little remarkable that in 1893, when I took Influenza for the second time, œdema laryngis was the first symptom to shew itself. It woke me from sleep about 3 A.M. and there was no lying down again till I got relief from taking a dose of *Phosphorus* and afterwards one of *Antimonium tartaricum*. This experience of my own stood me in good stead in the case of my infant patient, and I was very thankful

for it, for the child was in a critical condition and immediate relief was essential. It was with some hope, therefore, that I administered a dose of 3 or 4 pellets of *Antimonium tartaricum* 200, and promised to call in the evening. On doing so, I found some change for the better—the difficulty of breathing was less pronounced, the temperature had fallen and the child had retained some nourishment. That night the patient slept fairly well, but towards morning an aggravation of symptoms occurred, and I gave a second dose of *Antimonium tartaricum*, after which the urgent symptoms subsided and the child went out of danger. A dose or two of *Ammonium carbonicum* 200 completed the cure. This case of infantile Influenza gave me more gratification than all the other cases I treated put together. It was a little homœopathic triumph, and the memory of it will always remain green.

On the strength of my success here I used *Antimonium tartaricum* in the case of another child, who was in continued Influenzal fever for three or four days, with nausea and vomiting and complete prostration. *Nux vomica* had done little or no good, but a single dose of *Antimonium tartaricum* was sufficient for cure.

I shall now pass to the other extreme of life, and show you the peculiarities of Influenza in the aged by relating the case of an old man of 70 with fatty degeneration of more than one important organ of the body:—It was in the first week of last October that I was asked to see Mr. D—who had been ill for two or three days. From the first there were symptoms of bronchial and pulmonary catarrh, accompanied by excessive wheezing and dyspnoea which prevented the patient lying down in bed. The wheezing and dyspnoea were principally expiratory, and, as the heart was weak and fatty, I concluded that the trouble was partly respiratory and partly cardiac. The patient lay under a punkah night and day in spite of much advice to the contrary, and it was only when the left shoulder joint got attacked with acute Rheumatism that the punkah was discontinued.

I did not mention before that Rheumatism is a frequent accompaniment of Influenza and often makes a serious complication. In this case it was a most troublesome symptom all through the illness, and has left a stiff shoulder-joint which has refused to yield to treatment. I have more than once told the patient that Influenza has left him a legacy.

To return to his catarrhal symptoms, I must add that a rapid

serous exudation into both lungs made the case more anxious, in consideration of his advanced age and fatty organs, for the kidneys were also fattily degenerated, and there was more or less œdema of the body generally.

The expectoration was serous (like white of egg) and very rusty, and the cough and dyspnoea very distressing. In consideration of the gravity of his symptoms I put the patient upon *Phosphorus* 200, of which he had 3 or 4 doses of a few pellets each. Absorption was however slow and had to be aided by a dose or two of *Sulphur*, but the patient made a nice recovery, with the exception of the left shoulder joint which has remained stiff and painful on movement. This case well illustrates the value of *Phosphorus* in Influenza and its sphere of action. But it is necessary to add that many cases of Influenza there are, even in people not advanced in years, where the cough, the nature of the expectoration, and the seat of the pulmonary trouble, all indicate *Phosphorus* and require its prompt administration. In Dr. Carroll Dunham's excellent *Lectures on Materia Medica* we have a nice description of the cough of *Phosphorus*—"The cough of *Phosphorus* is dry, or has a scanty rusty sputum. It occurs night or day. It is provoked by a tickling in the trachea pretty low down, and by a feeling of rawness and soreness in the trachea and bronchi. It is induced by a very deep inspiration. It is accompanied and characterised by a hoarse, barking sound, by rawness of trachea and whole chest, and by a peculiar and distressing weight across the chest. There is also hoarseness."

A serous expectoration, especially if it be rusty or even bloody, is a strong indication for *Phosphorus*, other symptoms agreeing. But other drugs have also the same kind of expectoration, of which *Antimonium tartaricum* and *Ammonium carbonicum* suggest themselves to my mind.

As to the seat of the pulmonary affection calling for *Phosphorus*, I think the left lung has a greater affinity for the drug than the right, and, if I may use a repertorial indication, *Phosphorus* is especially indicated in affections of the upper lobe of the left lung, while sulphur covers the affections of the lower lobe.

These points I have repeatedly verified in practice. Very few of us, I think, are in the habit of prescribing repertorially, and yet it was the method of Hahnemann and his immediate disciples,

and gave them a measure of success in practice which most of us would fain attain.

When properly carried out, the use of a repertory makes prescribing more exact and certain, but it entails more trouble and labour, no doubt, and in the exigencies of daily practice most of us have neither the time nor the inclination to follow it out. Besides, a good and complete clinical repertory is as yet a desideratum, though the well-known work of Constantine Lippe has done excellent service since its appearance.

I have as yet, gentlemen, to draw your attention to the value of a drug in Influenza, which is as old in the treatment of the disease as it is efficacious—*Arsenicum album* I mean. Its relationship to epidemic Catarrh has been established beyond all question, and it is a favourite remedy in the hands of many homœopathic practitioners. My experience of it during the late epidemic of Influenza has not been as extensive as I anticipated. There is a class of cases which it suits admirably, and in which it has seemed to me a true simillimum.

Either at the beginning of an attack of Influenza or when the acute symptoms have somewhat subsided, the patient suffers from intermittent or remittent troubles of various kinds, of which neuralgias, chills and fever are the chief. Nothing in my experience gives such prompt and lasting relief as *Arsenicum* in these cases. Two or at most three doses of a high potency have been quite sufficient. The cases resemble the Intermittent or Remittent types of malarial poisoning, for which Arsenic is, as you know, a sovereign remedy.

In the beginning of my paper I drew your attention to a particular point which I shall here illustrate, viz., that Influenza is capable of modifying the symptoms, course and treatment of other diseases that usually prevail at the same time and place, the continued fevers for instance.

At the beginning of last month I was asked to attend a gentleman who had been ill with fever for five or six days. The disease was probably Influenzal, as his wife took ill with catarrhal symptoms at the same time, and, keeping to her bed for a few days, was cured by a few doses of *Bryonia* administered by a homœopathic friend. Her husband, however, being a busy man, could not lay up, and went about his business for two or three days

with fever on him. Matters became worse, however, and the fever was attended by very severe occipital headache, which the patient and his friends put down to exposure to the sun. For two or three days no rest or sleep could be had, and, when asked to see him, I prescribed *Belladonna*, of which he had two or three doses with complete relief to the head. But the fever continued of a remittent type in spite of *Nux vomica*, *Bryonia* and *Arsenicum*. The skin could not be got to act, the bowels were confined and had to be relieved by enema every other day, the tongue was thickly coated.

In the second week of the fever the cough, which was hardly troublesome before, began to be a pronounced symptom, and examination showed rales over both lungs and crepitation and dullness over the base of the left. I administered a single dose of a few pellets of *Sulphur* 200, and the following results were noted: The skin began to act *profusely*, the fever abated slowly till the morning remission showed 99°, the cough and expectoration had correspondingly improved, while the left lung seemed clearer under the stethoscope. A second dose of *Sulphur* was given three or four days after, as the skin had ceased to perspire, but no further change for the better occurred. On the contrary, the fever began to rise again, the cough to get more troublesome, the expectoration became serous and rusty, and the left lung duller on percussion over a larger area at the back. The right lung suffered very little, however. An extensive serous pneumonia had apparently occurred, and I put the patient immediately upon *Phosphorus* 200, of which he had three doses in all. When the pulmonary trouble was well controlled by the *Phosphorus*, I administered two or three doses of *Ammonium carbonicum*, which cleared the chest completely and removed the cough entirely. In a few days more the patient had left his bed and was ready to go for a change. What should we poor doctors do without that great prescription—a change?

In thinking over this case I could not help coming to the conclusion that it was one of Influenzal Remittent Fever. The temperatures did not range much above 103°F, and yet early in the second week of the fever marked pulmonary trouble had occurred. In ordinary Remittent Fever this is not usually the case, and when pulmonary trouble does arise, it is late in the

disease and is of the nature of hypostatic congestion. Two other points in the homœopathic treatment of this case came out very markedly—the patient took a large amount of nourishment all through his illness, from five to six seers of milk daily, and digested it all, and as the result of this no marked weakness was appreciable at the end of his illness. The homœopathic treatment of fevers is essentially conservative, and the cure *tuto, citò et jucundò*.

And now, gentlemen, it is time I thanked you for listening to my paper so patiently. It was not my intention to have written at such length, but my mind was full of Influenza when I commenced, and my pen refused to be restricted by considerations of time or space. I have given you an honest account of my experience during the late epidemic of Influenza, and I trust your experience will corroborate mine.

THE PRESIDENT'S CONCLUDING WORDS.

After the reading of the Paper a vote of thanks to the lecturer was proposed by Dr. D. N. Ray, seconded by Dr. Bipin Bihari Maitra, and supported by Dr. Aksay Kumar Datta, Dr. Brajendra Nath Banerjea, and others, each of these gentlemen making interesting observations on the nature and treatment of Influenza from personal experience.

The President, in conveying the thanks of the meeting to Dr. Younan for the excellent paper which he had done them the favor to read at a very short notice, took this opportunity to justify the holding of these anniversary meetings in honor of Hahnemann when similar meetings are scarcely held in honor of other men of science. The reason, he said, why these meetings are held, is the still persistent opposition by the very large majority of the medical profession to the literally life-giving truth discovered by Hahnemann, now exactly a century ago. Had Hahnemann's discovery had a mere theoretical interest his followers might have left its recognition to the slow and gradual process of the ordinary development of human progress. But the discovery is concerned with the most vital interests of mankind,—with the alleviation of suffering, the prolongation of life, and the prevention of premature death; and those, therefore, whether professional or laymen, who are convinced that the law of healing discovered by Hahnemann is calculated to bring about all these

in the most efficient way, cannot rest till they are sure of its universal recognition and adoption.

Comparing Hahnemann with Newton himself, Dr. Sircar said that as a discoverer the former was in no way inferior to the latter. Both had foreshadowings, in their predecessors, of the laws which they respectively discovered, but in the case of Hahnemann these foreshadowings were much more vague than in that of Newton. In some respects the claims of Hahnemann were superior. Newton, to establish the law of gravitation, had not to make any experiments himself which entailed personal suffering. He had, it is true, to make mathematical calculations which were extremely difficult and of a very arduous nature indeed and severely taxed his patience. Hahnemann had to deal with more complicated facts which not only taxed his patience, but for the elucidation of which he had to undergo voluntary poisonings of a most severe character in order that he might lay the foundation of the true science of medicine, and had to undergo a persecution from his professional brethren unexampled in the history of medicine.

Dr. Sircar then begged his colleagues to bear in mind that, though they had the best, because nature's law of healing by drugs, to guide them in the treatment of disease, drugging was not the be-all and end-all of the healing art. Perhaps in the enthusiasm of a discoverer Hahnemann laid too great a stress upon the use of drugs, but he (Dr. Sircar) could cite several instances of the most brilliant cures without the use of any drug whatever, and he had, in many cases, which were resisting all treatment, brought about recoveries by the discontinuance of all drugging and by the simple regulation of diet. Now a very important question for them as practical physicians to determine, as regards the cases which make good recoveries without drug treatment, was, how would these cases have fared if they had been treated with drugs. His (Dr. Sircar's) persuasion was, that they would have got worse. His rule was, in every case which did not imperatively call for immediate interference, to watch its progress for some little time at least before prescribing. In this connection, he begged leave to tell his colleagues that homœopathic medicines were not the innocent things they are represented to be, doing good and no evil. His belief was, and

that belief was based upon an experience extending over thirty years, that homœopathic medicines were as potent for evil when wrongly used, as they were potent for good when properly used. The so-called failures of homœopathy were, in his humble opinion, due to a want of recognition of this most important fact.

Dr. Sircar then took a rapid survey of the progress made by both the schools of medicine, and showed that while the old school was making astounding progress in the collateral branches, making the most brilliant discoveries in anatomy, physiology, pathology, chemistry, &c., it was still groping in the dark in the essential branch of medicine, which was therapeutics, and making most dangerous blunders in its endeavours to find out remedial agents. He showed how the new school was profiting by these very blunders in the light of Hahnemann's law of healing. That law, like all real natural laws, was receiving daily confirmation at the bed-side; and as a consequence, notwithstanding a most powerful opposition, the beneficent truth was spreading all over the world.

The progress of the new school, continued he, has been most marked by the discovery of a host of new remedial agents, since the time of Hahnemann, by the application of the method which he had pointed out. Some of these drugs were most precious, and were as valuable as any discovered by the Master himself. But more new drugs had yet to be discovered, and the symptoms of old ones had to be precisionized. Dr. Sircar, therefore, insisted upon further provings, and re-proving of old drugs, on a wider basis than was possible in the days of Hahnemann, with the help of all the appliances that have been devised, for the examination of the morbid condition of the patient.

He concluded by laying stress upon the necessity of proving Indian drugs, and had the pleasure to announce that already such a proving, the first systematic in India, has been made, and that this proving has begun to bear good fruit. The *Acalypha Indica* has been proved by two very zealous gentlemen whom he had the pleasure to see at that meeting, and already by the light of these provings the drug is being used by him (Dr. Sircar) in the successful treatment of some forms of diarrhœa. He then exhorted his hearers to bear in mind that they could not better express their gratitude to Hahnemann than by carrying on his

work, the most important of which was, as they all knew, the proving of drugs. The *Materia Medica* of India was a rich and vast store house. With the key furnished by Hahnemann, they could unlock it, and utilize its stores for the benefit of mankind.

With a vote of thanks to the chair, proposed by Mr. N. N. Ghosh, barrister-at-law, the meeting came to an end.

INTERNATIONAL HOMŒOPATHIC CONGRESS,

(August 3rd to 8th, 1896.)

We have been requested by the General Secretary of the Congress to insert the following:—

“In consequence of the demand for a hearing at this Assembly, it has been determined that the forenoons, hitherto destined for extemporised and informal gatherings, shall be utilised for “overflow meetings,” to be held under the rules and officers of the Congress. They will be devoted to the further discussion of the subjects of the preceding afternoon, or to the handling of fresh subjects of the same order.

“As a good deal more time will thus be made available, the officers can abandon the limitations under which, in their “Preliminary Announcement,” they invited further communications. They will now welcome such, not only “on the topics hitherto specified, and on those which will be later announced as chosen by the American Committee,” but upon any subject which may be selected by the essayist. They would add, moreover, that even should the additional time prove insufficient for a discussion of all the papers they may receive, these—if accepted—will be read by title at the meeting, and be printed in the Transactions.

“All American contributions should be sent to DR. DEWEY, 170, West 54th Street, New York, the Secretary of the Committee appointed at the last meeting of the American Institute of Homœopathy for furthering the interests of the Congress from that side of the water. Contributions from other countries should be addressed to the General Secretary of the Congress, DR. HUGHES, Brighton, England.”

EDITOR'S NOTES.

The Bacteriology of the Cervical Canal.

The cervical canal in both pregnant and non-pregnant women is, as a rule, sterile. The region of the external os separates the portion of the genital canal free from bacteria from that part containing bacteria. The cervical canal slime destroys micro-organisms.—*Centralblatt für Gynaekologie*, quoted by the *Hahnemannian Monthly*, Jan.

Baltimore Woman's Medical College.

We learn from the *American Medico-Surgical Bulletin* that the Woman's Medical College of Baltimore celebrated its fifteenth anniversary on the evening of the 24th February last. This college has a three years' graded course, and averages about sixty students. Bengal is not fortunate enough to have a separate Medical College for Females, but there is a separate class for them in the Calcutta Medical College for which a four years' graduated course has been laid down. Oxford and Cambridge may watch the results of these experiments before arrangements are made by them for granting degrees to women.

Common causes of Alopecia.

Dr. Henri Fournier (*Jour. des Malad. cut. et syph.*, 1895, vii, p.641) who attributes baldheadedness to too much washing the scalp, and to its frequently lacking in oil, bears testimony to the beneficial effects of the oriental practice of oiling the hair, which he has met with in many races. "Some animals also, as, for example, birds, which possess neither seborrhoeal nor sebaceous glands, have a gland which secretes an oily substance which the animal rubs on the skin to protect the feathers from the action of the water. The product of sebaceous glands is remarkably rich in fat, and possesses a notably small amount of water. The falling of a certain number of hairs is a physiological phenomenon." The author suggests that rubbing into the scalp of a pomade or other fatty substance should be made part of the daily toilet, the pomade carrying with it some antiseptic substance.—*American Medico-Surgical Bulletin*, March 21, 1896.

Venereal Disease in the Indian Army.

The question of the spread of venereal disease in the Indian Army has again been revived in the House of Commons. On the 30th of March last Lord George Hamilton is reported to have said in reply to a question asked by Mr. Duncombe, that this disease has become very prevalent in consequence of the abolition of the previous protective measures against it, so much so that according to the Government of India it constitutes "a most serious cause of inefficiency in the army," and that the Viceroy in Council is now engaged in finding out whether any and what regulations might be issued to mitigate the scourge without infringing the restriction imposed by the resolution passed by the House on the subject. The duty which the Government of India have thus undertaken, is one of the most difficult and delicate that can be imagined, and we are waiting anxiously to see

how they can steer clear of the Scylla of preserving the morality on the one hand, and the Charybdis of preserving the health of the army on the other. .

Epilepsy from Lead Poisoning.

On the 27th of February last, Dr. A Davidson read a paper in the Liverpool Medical Institution on Epilepsy and other Cerebral Symptoms resulting from Lead Poisoning. In it he described a very severe case of lead poisoning occurring in a man who had been working in very confined places whilst painting the interior of a ship, and was admitted to hospital on a Monday complaining of headache and behaving in an imbecile manner; he soon had an attack of delirium and epileptic fits, became unconscious and died on the Friday, four days after admission. A chemical examination of the brain showed the presence of lead, and it was estimated that half a grain was the amount present in the entire brain. Lead was also present in the liver and intestines. As there was no kidney disorder, the fits could be fairly considered to be due to lead poisoning. Dr. Bradshaw did not however agree with this opinion. He said that as the amount of lead present in the brain was so small, the convulsions might be due to anæmia—*Lancet*, March 7th.

A Case of Nail Penetrating into a Human Brain without any Inconvenience.

Sometime last year, a young man, thirty-two years old, of fair intelligence, and apparently well formed, was admitted into the Metropolitan Hospital of New York, suffering from double pneumonia. During the post-mortem examination, as the skull cap was lifted, a nail was found which had passed through the skull and penetrated for three quarters of an inch, into that portion of the brain which is supposed to be the seat of thought. The head of the nail was imbedded in the skull, and covered by the scalp with its full growth of hair, showing that it had passed through the soft portions in babyhood. On enquiry it was found out that the man was a laborer, had lived all his life in New York, had never suffered until the attack of pneumonia from any special disease, and had never complained of headache, and yet he had carried this nail penetrating into the brain, the rust, when removed,—staining the surrounding brain cells and scaling when touched with a knife from the nail itself.—*The Homœopathic Physician* of January 1896, quoting from the *New York Medical Times*.

Biological Work in Japan.

The remarkable progress which the Japanese have made not only in the art of war, but in dress, politics and education, ought to engage our most careful attention. So far as we can gather from European books and periodicals, this progress is due mainly to the adoption of Western ideas, customs and institutions. We now learn from the *British Medical Journal* that the Japanese are carrying on valuable researches in physiology and pathology. Hitherto a large

number of them have received their education in Europe, their aim now is to provide as good an education in their own country. The Imperial University of Tokio contains an able staff of European professors, and an attempt is apparently being made to replace them by natives. It would seem from certain publications from the Tokio University recently brought to notice that the time is not very distant when the native Japanese would be fully qualified for these posts. "The *Journal* of the College of Science attached to the University, which is published partly in English, partly in French, abounds in biological papers of the highest standard of excellence." The *Bulletins* of the College of Agriculture, published under the editorship of Dr. Oscar Loew, Professor of Agriculture,—a well known Chemist and Physiologist—and the papers published by the Tokio Mathematico-Physical Society, and the works done in connection with the earthquake investigation, and the seismic survey of the country, are also very valuable. Publications such as these are of special interest because they open up what is very largely a new field in science, namely the Japanese animals, and the Japanese food and agricultural products, which are often very different from those of Europe. The Japanese are now the most advanced nation in Asia, both physically and intellectually, and we should not lose any opportunity of profiting by their example.

The Destruction of Trees by Lightning.

In former days France was most famous for the success with which the study of forestry was carried on. In this respect Germany has now become her most formidable competitor. It is here, that experiments for procuring the preservation of trees, are not only being carried on to a very large extent, but investigations are being made on the probable causes which induce lightning to strike certain kinds of trees in preference to others. The latter subject has been lately treated in *Nature* (Feb. 27) in some detail. The following facts may be stated as the results of these investigations. The laurel and the beech are seldom struck by lightning, but the oak is most liable to be so struck; electricity is conducted better in the direction of the grain than in the direction perpendicular to it; the wood cut from living trees was in every case a worse conductor of electricity the more oil or resin they contained; on the other hand, the fresh wood of trees rich in starch but poor in fatty matter conducted electricity very well. It was further found by experiment that the wood of trees rich in fatty materials, such as beech and walnut, when deprived of oil by means of ether, became better conductors, and thus to all intents and purposes the same as the wood of trees rich in starch. We also learn from the *Nature* of March 26th, that in the neighbourhood of Moscow out of 597 trees struck by lightning, more than half the number were white poplar. It has accordingly been suggested that these trees as also the pyramid-poplars should be planted for natural lightning conductors. In this country the cocoanut tree is said to be most liable to be struck by lightning. It is needless to state that the question under consideration is one of very

general interest, and we hope that the investigations above referred to, will be followed by observations and statistics from other sources. It is sad to think of the large number of useful trees which are destroyed by lightning, and it is high time that some measures should be discovered and put to practice to prevent the further destruction of such trees.

Red Bone Marrow in the Treatment of Anæmia.

The following interesting case reported by Dr. Robert L. Watkins, is reproduced from the *American Medico-Surgical Bulletin* (7th March):—

Miss Esthes C., age 16 years, came to Prof. Charles L. Dana's clinic for nervous diseases at the Post-graduate Hospital on January 9, 1896. She gave a history of having been ill for more than two years. She had suffered from weakness, loss of appetite, and headaches. During the past four or five months she had slight fainting spells, and had two attacks which were quite severe. There was no history of aura or of any convulsive movements. Digestion was often disturbed, and she had a bad taste in the mouth mornings, and a tendency to constipation. Her headache was situated in the brow and running up to vertex. She also had pains in the back. She had never menstruated. She had cold extremities and evidences of weak circulation. Examination showed no objective signs of disease, except a most pronounced and striking anæmia. The case was looked upon as one of the ordinary forms of chlorosis in girls. She had, however, been treated for two years, as stated by herself and mother, with large doses of iron, including Bland's pills. She also had arsenic and tonics of all kinds. The fact that she had not improved under iron and arsenic, and the ordinary measures directed toward this condition, suggested the possibility that bone marrow was indicated. She was, therefore, placed upon 2 dr. of carnogen, a uniform preparation of red bone marrow, three times a day, with absolutely no other treatment.

The patient rapidly improved, and a month after treatment showed decided decrease in pallor; there was very little headache, and she had no more fainting spells. Examinations of the blood, including photographs, were made. The first photograph, taken before treatment, showed a marked deficiency in red corpuscles, and the poikilocytes were very pronounced. The second one, taken a month later, showed a large increase in the red corpuscles; these being very much improved in appearance, as well as in numbers. They had more tone, were more perfect in form, and were arranged in rouleaux.

Mouth Digestion in Infants.

The *Minneapolis Homœopathic Magazine* (March 1896) gives the summary of a paper read sometime ago by Dr. W. M. Decker of Kingston, N. Y. before the Homœopathic Medical Society of the State of New York on the efficacy of his new and sanitary Nursing Bottle. The process of what he calls the mouth digestion of infants has been described in the following terms:—

In the feeding of infants, much depends on how the swallows

homeward fly. The digestion of milk is promoted or retarded according to how it is swallowed. If it is swallowed rapidly and the quantity to each swallow is large, it coagulates in the stomach in massive, compact curds, which are difficult to digest. If it is swallowed slowly and little at a time, it coagulates in small, soft curds, which are easily digested. This is true of either human or cow's milk, though the latter coagulates in larger and harder curds, and is therefore slower to digest than human milk. The difference in the coagulation of human and cow's milk is also accounted for, in part by the difference in their reaction. Human milk is alkaline; cow's milk is neutral or slightly acid.

Again, the digestion of milk is promoted, or retarded, according to the quantity of mouth secretions mingled with it. Mouth secretions are usually increased during the ingestion of food, and the presence of milk or any food in the mouth increases the flow of saliva, so that the more slowly milk is imbibed, the more saliva will be mixed with it. Now, what is the influence of mouth secretion or saliva, on the digestion of milk? It retards the coagulation of milk, because it increases its alkalinity; and the resulting curds are softer and more porous. Mouth secretions also promote the secretion of gastric juice, hasten digestion and prevent acidity, or fermentation, in the stomach, therefore they prevent or lessen colic.

Now, let us consider normal ingestion of milk by a babe at the breast. A babe three months old will nurse two ounces of milk from its mother's breast in from ten to fifteen minutes. That is a full meal. If the time occupied in nursing was fifteen minutes, then, at the rate of one swallow every four seconds, it would take 225 swallows to carry two ounces of milk into a babe's stomach; and the average amount of milk to each swallow would be only 44-16 drops. That is normal ingestion of milk. It is ingested slowly, at intervals, and in small quantities. The amount of milk ingested with each swallow is small, and the curds are still smaller. The secretions of the mouth have been increased by the length of the meal; and they have mingled with each portion of milk swallowed, and will exert their full influence on the milk and the stomach; and all the conditions that prepare the milk for easy digestion in the stomach have been met and complied with.

Railway Hygiene.

Now that railways are multiplying all over India, the influence on health of railway travelling, should be made a subject of special study by the medical profession in this country. The *Lancet* in 1862 dealt with the subject exhaustively in a series of articles. That the cautions suggested in these articles were much needed was shown by the fact of the welcome given to them when republished by a wide circle of the travelling public. "Many needed reforms have since been made," now says our contemporary, "but these do not keep pace with the ever-increasing railway traffic of the country. At the commencement of the year loud cries were raised by the public in the press concerning the inadequate light, warmth and ventilation of the

carriages on some of the railway lines, and we added our protest to that of the public. At the last Congress of the American Public Health Association no less than four papers dealing with the matter of 'Railway Hygiene' were read, three of which find a place in the journal of the Association, and some of the points brought out would lead us to suppose that in this direction our American cousins are a good way ahead of ourselves. It is rightly pointed out that with regard to cleanliness the condition of the cars is dependent on those in charge of them, and it is gratifying to learn that there seems to be an increasing disposition in America on the part of the railway corporations to endeavour to see that the employés carry out the work entrusted to them in a proper manner. Of course the conditions of railway travelling in America are very different from our own, but when we remember the slovenly and careless way in which we have seen carriages cleaned on English lines we wish as much could be said for our own railway companies. As showing the remarkable advance that is continuing to be made in this direction it is stated that the Wagner Car Company have instituted a school of instruction for all their employés in the prompt and safe handling of passengers and traffic. In a paper on the ventilation of railway coaches is a passage which is worth quoting: 'Finally,' says the writer, "it should be remembered that in all ventilating undertakings but one-half of the requirements are fulfilled when the most perfect apparatus conceivable is furnished. The excellence of a tool does not ensure the quality of its product. Quite as much depends upon the uses as upon the tool, and not infrequently a superior apparatus is made in its reputation to bear the burden of its operator's infirmities.' He then goes on to say that the employés should be systematically trained, and the public educated to habits of cleanliness and their minds freed from the trouble-making notions and imaginings which prevail with reference to ventilation even among those boasting of culture. We quite agree, for herein lies the key to the whole matter. If the public possessed an intelligent knowledge of the laws of health they would immediately unite in demanding, with every chance of obtaining, a redress of the grievances from which they suffer."

In this country the passengers, who suffer most, are those who are the real patrons of the Railway Companies, the third and the intermediate class passengers. The sufferings arise chiefly from overcrowding, and the way in which this overcrowding is permitted and often forced is simply scandalous. But these passengers will not cry individually nor unitedly for redress of their grievances, and therefore there is no chance of redress coming to them unless the Government interposes its strong hand between them and the Railway Companies. It is high time that a Commission be appointed to inquire into the inconveniences and sufferings to which the railway passengers in this country are subjected, and also into the whole subject of the permanent influence on health which those inconveniences and sufferings are calculated to exert.

CLINICAL RECORD.

A Case of Inflammation of the Cæcum.

By DR. BIPIN BIHARI MAITRA, M.B.

On December 30th, 1895, a Hindu female, aged 56 years, came under my treatment. Menses had stopped only three months back, but a month back, she had it again, this time lasting only four days, the flow being red. Of late she has lost her son and husband.

Since four months, she has been suffering from a pain in the right iliac region; since a month, the pain has become so severe, as to confine her to bed. For a whole month allopathic medication was tried in vain.

Her present symptoms were: Pain day and night over the region of the cæcum, where there is also a little swelling. The part is very sensitive to touch; the pain increases at night and after taking food. There is also a diarrhœa, which had developed into dysentery during allopathic treatment but has been cured since a week. She passes some three to four stools during day and six to eight stools at night; feels that after the stool there is something remaining within the rectum, which she cannot expel, as she cannot strain sufficiently owing to the pain. Very little sleep at night. *Hep. s.* (3x) every 4 hours.

31st Dec. No change. *Merc. Iod. flav.* (6x) every 4 hours.

1st Jan. 1896. 4 P.M. Pain just the same; diarrhœa increased; seven stools at night. *Podoph.* (6) every 4 hour.

2nd Jan. Examined the stool; it was thick fæculent, brown, with lumps like bits of flesh, very foul smelling. *Psor.* (200) one dose.

4 P.M. Consulted with Dr. D. N. Roy, who suggested *Lachesis* in case *Psorinum* failed. *Placebo.*

3rd. Jan. Much better, only three stools at night; pain less. *Placebo.*

4th Jan. Pain increased from 4 P.M. and lasted all night as usual; eight stools in twenty four hours. The stools at night were less foetid. *Psor.* 200 one dose.

6th Jan. Three stools during the day and two during the night yesterday. Stools less foetid and much less in quantity. Had little pain during the day, but it began to increase from 5 P.M. yesterday. I saw her at 10 A.M. when no pain was felt on pressure over the cæcum; the neuralgic pain which she used to feel within the cæcum constantly, is less by half; appetite improved.

7th Jan. Complained of slight pain at midnight; pain, much less felt now (morning). Three stools during the day and three at night. *Psor.* 200 one dose.

9th Jan. Three stools at night and two during the day. Stools contained undigested matter. *Placebo.*

11th Jan. Had taken rice yesterday; 4 stools in 24 hours; stools solid and pale yellow. *Calc. c.* 6x thrice a day.

Slight remaining symptoms were treated with *Calcarea carb.* and *Nux. vomica.* She has made a perfect recovery.

[A case, which upwards of a year ago came under our care after old school treatment and was threatened with an operation, recovered with simple regulation of diet and no medicine.—*Ed. Cal. J. Med.*]

THERAPEUTICS OF CONSTIPATION, DIARRHŒA, DYSENTERY, AND CHOLERA.

130. KALI BICHROMICUM.

Constipation :

1. Disposition to constipation, and then other symptoms became worse. 2. Constipation with pain across loins.
3. Periodic constipation, occurring every three months.
4. Evacuation of bowels difficult and painful ; fæces extremely hard.
5. Sts., hard and infrequent, accompanied by protrusion of rectum.
6. St., hard, scanty, lumpy followed by burning in anus.
7. Hard, unsatisfactory st. in morning ; also at noon.
8. St. altogether suppressed.

Diarrhœa :

1. Pasty stools, followed by a sensation as if two little had been passed.
2. Violent urgent desire for st. woke her at 6 A.M. ; she was unable to reach closet soon enough ; the watery contents from intestines spurted from her ; such violent tenesmus followed that she was unable to rise from stool.
3. St. immediately after rising in morning, followed by feeling of soreness in anus.
4. Two liquid sts. in quick succession, in morning, followed by burning in anus.
5. Semi-liquid st., after rising in morning, followed by some griping in intestines.
6. St. in evening, tolerably consistent, followed by diarrhœa-like st., then tenesmus for sometime.
7. Very profuse D-like sts. at times.
8. Copious loose st. Copious thin st., without griping, tenesmus, or other painful sensation, at 11 A.M., sometime after st. uncomfortable feeling in abd., with distension and slight pressure in anus ; after dinner renewed desire for st., but only emission of flatulence.
9. D. constant, evacuations *involuntary* ; bed perfectly swamped.
10. D-like st., consisting of *brown frothy water*, with excessively painful pressure, urging, and tenesmus in anus ; these stools were repeated seven or eight times, accompanied by nausea and inclination to vomit and constant pain in abd., then sudden complete rest.
11. Scanty, *pale, slate colored* sts.
12. Copious, *dark colored* evacuation, with tenesmus.
13. Slightly purged, evacuations of a *greenish-yellow color*.
14. Frequent dejections of *dark coffee-colored* sts.

Dysentery :

1. Violent purging, almost incessant, of mucus and blood ; bowels evacuated as he lay in bed.
2. Sts. bloody and extremely painful.
3. Dysenteric attacks for several years, lasting about three weeks ; frequent bloody motions, with gnawing pain at navel, follow-

ed by ineffectual straining.

Aggravation :

1. Morning, after rising.

Before St. :

1. Violent urgent desire. 2. Severe pain in abd.

During St. :

1. Pain across loins (hard st.)
2. Protrusion of rectum (hard st.)
3. Colic and nausea (D.)
4. Burning in anus and straining (loose st.)
5. Painfulness of st. 6. Escape of prostatic fluid.

After St. :

1. Nausea. 2. Uneasiness and distension.
3. Burning in anus. Straining at anus.
4. Burning in anus and colic.

Rectum and Anus :

1. Painful retraction of anus, especially on days when there were no sts. 2. Itching in anus. Sore pain in anus.
3. Sensation of a plug in anus while sitting.
4. Dragging and burning in the hæmorrhoidal vessels after active exercise. 5. Dragging, biting, and tenesmus in anus.
6. Burning in anus, especially after st.
7. Indescribable sensation of twinging and pressure in anus, as if violent D. would ensue, sudden relief after emission of flatulence.

General Symptoms :

1. Ill temper and disinclination for mental or bodily work. Melancholy, ill-humor and *tedium vite*.
2. Vertigo on rising up in bed, worse on lying down again, with nausea. Vertigo and nausea, relieved in the open air, worse in the room.
3. Heaviness in head after vomiting. Burning headache with vertigo, during which objects seemed in a yellow mist, somewhat relieved by taking warm soup.
4. Inflamed pimples on occiput and hairy portion of nape of neck. Falling out of hair. Itching and burning of scalp.
5. Inflammation of eyes, with yellow discharge and agglutination. Itching and burning in both eyes, lachrymation and photophobia. Eyelids swelled, inflamed, granular. Pupils dilated.
6. Fluent coryza. Bleeding of nose. Nose constantly full of thick mucus. Discharge of scanty, acrid mucus from nose causing burning of septum. Frequent sneezing. Formation of plugs or clinkers in nostrils. Ulceration, even to perforation of septum narium. Diminution, to extent of loss, of smell.
7. Complexion before ruddy and fresh, now pale and yellow. Sensitiveness of bones of upper jaw, especially beneath orbit. Ulceration, with indurated edges, with smarting pain, on mucous surface of both lips.
8. Dryness of mouth and throat. Copious salivation, bitter-

- salt, tough, and frothy. Painful ulcer on tongue. Tongue smooth, red, cracked. Tongue coated whitish-yellow; thickly coated white. Tongue dry and thickly coated. Burning and stinging in tongue. Tobacco smoking causes burning in mouth in a habitual smoker. Aphthæ and lividity of gums. Deep sloughing ulcers on roof of mouth.
9. Taste, bad of water, natural of food: metallic; astringent; bitter; bloody; sweet; cool, sour; offensive; wine and water taste bitter.
 10. Pain in throat on awaking; sore on swallowing or speaking. Long-continued erythematous blush of fauces and soft palate. Uvula and tonsils red, swelled and painful, and finally ulcerated (as if syphilitic); ulcers deep, covered with yellowish or ashy tenacious slough or exudation.
Sensation in throat, of a hair, of a plug, of a prickly body, of coolness (especially in posterior wall), of something sticking (flatulence). Sensation as if food remained in œsophagus.
 11. Appetite increased; hunger, but disgust after eating little; canine hunger on seeing others eat; capricious appetite; distressing sensation of hunger, though there were nausea and disinclination for the slightest food. Complete loss of appetite without aversion to food. Dislike to meat, and indigestion from it.
 12. Thirst constant, but drink causes return of nausea. Thirst for acid drinks. Excessive, burning thirst. Aversion to water, which has an unnatural taste. No thirst.
 13. Eructations with taste of food; with taste of rancid bacon, although none had been taken. Sour eructations. Tasteless and odorless eructations, with rumbling in intestines. Convulsive eructations. Hiccough, with distension of abd. and water-brash.
 14. Heartburn. Nausea, constant; like sea-sickness; to faintness; on awaking at night; by pressing stomach and liver; aggravated by motion, by sight of food, during and after meals; excited by drinking, not by solid food, by smoking, after stool; relieved by eating, by drinking coffee and warm soup.
 15. Vomiting sudden, in successive throes, sour, bitter, easy of food, of undigested food, of bile and mucus, of bright blood, of blood and mucus, of clear watery fluid, of pinkish glairy fluid, dark brown, brownish yellow; excited by stooping and moving, and in open air. Repeated retching and vomiting. Vomiting accompanied by headache, vertigo, coldness in stomach and bowels, burning in stomach, coldness all over, then heat all over, anxious sweat.
 16. Distension of stom. with fulness and pain on pressure, and inability to bear tight clothing, aggravated by motion, relieved by rest. Pain in stom., especially at greater curvature, extending up to throat, with accumulation of water in mouth. Feeling of internal coldness in stom. and

bowels, very distressing. Very strong but quite painless undulating contraction in pit of stom. which spread thence to cavity of chest and there ceased ; this was evidently seated in stom. and œsophagus. Cramp in stom. Load at stom., food lay like a load. Gnawing at epigastrium, with sensation of emptiness.

17. Distension of abd. Rumbling and griping, with discharge of offensive or odorless flatulence. Violent cutting colic, but specially severe constrictions in upper abd. Sensitiveness of abd. to touch, especially in region of sigmoid flexure. Shooting in liver and dull aching in it posteriorly.
18. Escape of prostatic fluid at st. Burning and smarting during micturition. Frequent emission of very watery but strong smelling urine. Urine scanty, high-colored with pain across loins, and deposited a pearly-white sediment. Urine deposited a thick, copious mucous sediment. Urine suppressed.
19. Hoarseness with dry cough, or accumulation of mucus in larynx. Cough, especially after meals, or in morning, with expectoration of mucus tough as pitch, which could be drawn out into strings. Dyspnœa.
20. Sleepiness and prostration, so that he could hardly write.
21. Rheumatic-like, and shooting and pricking pains here and there all over, worst in the morning on awaking ; pains migrate quickly from one part to another.

As a general rule rheumatic pains worse when gastric pains better, and vice versâ.

22. Eruptions on skin of all sorts, especially pustular itching and painful. Boils and excavated ulcers.
23. Emaciated, looks aged.
24. *Morbid appearances* : The whole alimentary canal, from the mouth to the anus, showed signs of irritation, and inflammation ending in or tending to ulceration and even gangrene. In all the cases observed the mucus membrane of the pyloric orifice was singularly free from inflammation. The most marked changes were observed in the mucous membranes of the stomach, duodenum and jejunum. The ileum was less affected and still less the colon. The colon did not altogether escape the tonic effects of the drug. It and the rectum were found deeply reddened. The mucous membrane of the cœcal valve was reddened, and had blackish spots on it. The rectum further showed constriction in more places than one and several spots of extravasated blood. There was noticed a sort of intus-susception of the pyloric half of the stomach, and marked intus-susceptions in the ileum. The vessels of the mesentery and meso-colon were found injected ; the glands thickened and enlarged ; the diaphragm reddened and traversed by enlarged vessels ; the liver congested, friable, and mottled, on section.

Remarks : KALI BICHROMICUM has been used successfully in constipation, diarrhœa, and dysentery. The symptoms of all these condi-

tions are characteristic, and therefore, the drug may be used with precision. Thus—

In disposition to constipation, and aggravation of other symptoms during the constipated state; in periodic constipation, when the evacuation of the bowels becomes difficult and painful, and the stools are very hard, scanty, lumpy, or altogether suppressed, and there is pain across the loins, KALI-BICH. will seldom disappoint. According to Dr. Dysdale, the introducer of the drug, the remedy has found a place "in chronic catarrh of the mucous membrane of the bowels, with flatulent colic and constipation." The following case, contributed by Dr. A.E. Hawkes to the *Homœopathic World* for Dec. 1874, furnishes an instance of its efficacy :

N. A., aged thirty-three, consulted me in October. Her symptoms were : Want of appetite ; fulness at the chest ; a great deal of flatulence ; taste of rotten eggs, with constant nausea ; great dislike of fat meat ; tongue reddish and rough ; headache ; sharp shooting pains, extending all over the head ; pains worse in the afternoon and evening ; the bowels obstinately constipated. The patient was getting very weak, since she could take but little nourishment. She also complained of great heat of the body on walking about. Her eyes felt weak and there was a great deal of pain in the eyeballs. Great drowsiness and languor in the daytime, with sleeplessness at night. Sharp, shooting, aching pains frequently existed in the sides and back. KALI BICHROMICUM 3, taken four times per day, soon cured the patient.

In diarrhœa KALI BICH. is already a highly approved remedy in our school. It would be found to be particularly useful in morning diarrhœa. Dr. Drysdale has obtained satisfactory results "in several cases of chronic whitish diarrhœa and hepatic derangement of children, and has given the following case in illustration. "A boy, aged 4, of sanguine temperament, had for sometime been subject to a chronic diarrhœa, for which a variety of homœopathic medicines were tried with partial or temporary benefit. His appetite and general health appear pretty good, but the bowels are disordered—several thin motions daily, clayey and offensive. Before stool he looks pale and shivering, and during it has uneasiness and paleness. Frequent thirst. KALI BICH. 6 and 3, a dose every alternate night, removed the disease in a fortnight." He has further added : "Dr. Kitchen found it of great benefit in cases of frequent, watery, burning diarrhœa, yellowish or light brown, with little or no pain or smell, coming away suddenly and frequently without control. He gives cases, viz. 'A lady used to pass watery, sudden, uncontrollable stool, in bed and was cured by a few doses of the 1st dilution : a gentleman of eighty-five was cured of the same, and the discharge often occurred in riding in a carriage.' A case was wonderfully relieved, of vomiting and diarrhœa after midnight, with sore, blistered tongue. In cholera infantum Kitchen finds it changes the profuse watery green stools to a more consistent and healthy condition."

We have Dr. Hughes' testimony that "in chronic diarrhœa from intestinal ulceration it vies with MERCURIUS CORROSIVUS, and has effected some brilliant cures."

We are inclined to think KALI BICH. may be useful even in some forms of cholera. It has both copious watery vomiting and purging, and suppression of urino. It would certainly be useful in those cases of diarrhœa which, if they are not cases of genuine cholera, are very like it; in which the stools consist of brown frothy watery fluid, are often passed involuntarily, are so copious that the bed is perfectly swamped, and are accompanied by nausea and vomiting of clear watery fluid, or of pinkish glairy fluid, and excessive thirst but each drink causing return of the nausea. Such cases, if treated with any other drugs are sure to get worse and even end fatally. We are of opinion that many cases, which are in the beginning cases of diarrhœa, are converted into cases of cholera by the routine use of the stereotyped remedies, such as ARS., VERAT., RICINUS, &c. Or, more properly speaking, cholera has a variety of forms, and each case requires special individualizing, in order that it may be successfully treated.

In cases of burns, especially when extensive, a remarkable pathological change has been observed in the duodenum, namely, ulceration of its mucous membrane to the extent of the perforation of the gut. This condition gives rise to diarrhœa which often assumes the dysenteric character, KALI BICH. is likely to be, and has been, a valuable remedial agent in such cases. Dr. Drysdale has given a case of a boy in whom after a large burn there were the following symptoms "constant pain in abdomen requiring incessant gentle rubbing, fretfulness, much emaciation, intolerance of light, frequent evacuation of mucus and blood preceded by violent pain in abdomen, but not followed by much tenesmus, tongue pointed and red like a piece of raw beef, little thirst and no appetite, sleeplessness from pain which causes him to awake after every short sleep." After some improvement which became stationary under *Ars. 6*, a cure was effected by K. BICH. 4 in a week.

Whether it can vie with MERCURIUS CORROSIVUS in its control over true idiopathic dysentery, has to be determined. Both pathogenetic symptoms and post mortem appearances show that it must be a remedy in some of the severe forms of this disease, especially when it has become chronic. Analogically, from its pathogenetic effects on the respiratory tract where it causes the mucous membrane to secrete tough stringy mucus, KALI BICH. is likely to be useful in those forms of dysentery in which the mucus discharged is of that character. We have the authority of Dr. Bell (*Diarrhœa, Dysentery, &c.*) and of Dr. Hering (*Guiding Symptoms*) that when after CANTHARIS has removed stools like scrapings of mucus membrane, jelly-like stools appear, KALI BICH. completes the cure.

KALI BICH. has actually produced intussusception of the pyloric extremity of the stomach and of the small intestines. Other symptoms corresponding, it must be a valuable remedy in this most serious disorder.

Glennings from Contemporary Literature.

STATISTICS, ETIOLOGY AND PROPHYLAXIS OF MALIGNANT DISEASES IN GENERAL, AND OF UTERINE AND MAMMARY CANCERS IN PARTICULAR.

By JAMES KRAUSS, M.D.

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With the exception of tuberculosis and, perhaps, of syphilis, there is no subject in the whole realm of medicine that involves greater practical issues than malignant disease. No doubt, it had its victims in the early history of man, but a closer study of its geographical distribution shows that malignant disease is essentially a disease of civilization and as such, it is even now on the increase. At the eleventh International Medical Congress at Rome, Prof. Foa remarked that in many places carcinoma occurred with startling frequency and that the mortality in such places sometimes amounted to fifteen per cent. of that of the whole population, while, in other places, the mortality fell as low as seven per cent. Dr. Joseph D. Bryant also showed the enormous increase of cancer in his Wesley M. Carpenter lecture delivered before the New York Academy of Medicine. He found that the mortality from cancer in the United States was for the year 1850, in every 100,000 inhabitants, nine; for 1860, eleven; for 1870, sixteen; for 1888, twenty-six; for 1890, thirty-three. This steady increase in the death-rate from malignant disease is noticeable in all civilized countries. In England there are said to be always 30,000 cases of cancer. The Tenth Census of the United States records 13,068 deaths from cancer for the census year. Philadelphia has an average death-rate of 2.28 per cent., New York of 2.78 per cent. and Boston has probably even more, since cancer is more prevalent in the New England States than in any other section of America.

No method of treatment has so far been able to stop the onward march of this dread disease. When, in isolated cases, medicine had apparently accomplished a cure of cancer, the result was simply to lull the symptoms for a time until they would burst forth with increased force. Surgery did little better, for the knife, as wielded until a very few years ago, did not go to the root of the trouble. Disappointed in this result, some of the best minds in the profession turned their attention to the cause of this formidable disease. Pathologists and surgeons have vied with one another to find the clue to a more rational treatment of cancer than has been in vogue heretofore. Bacteriology has offered a helping hand to fathom the cause of this dreadful disease. Since Nepven, in 1880, first made the statement that bacteria are found in cancer, and in 1889, Darier discovered psoropores in Paget's disease, Colmheim's embryonic theory of tumors has received its death-blow and the parasitic theory of malignant disease has gained a great many believers and ardent workers. Scheuerlen, Kubasoff, Verneuil ascribe the etiology of cancer to bacteria. Adamkiewicz to the coccidium

sarcolytus ; Van Nissen to the claspodium cancerogenes ; Plimmer to certain protozoa, which he had found in every instance in fifty-three cases. Many other investigators delved in the laboratory of cancer juices to discover the etiological agent. Some found granular bodies, like Thoma and Henklom, Podwyssocky and Sawitschenko ; others found hyaline bodies, like Torok ; others again saw plasmodia, like Browicz and Stroebe. Foa, Wickham, Ruffer, Soudakevitch, J. Jackson Clarke, and others found parasitic organisms. Whether this babel of names is the natural result of different and apparently contradictory observations or whether these many names are so many denominations of one and the same thing, may be left for others to determine. It may also be an open question whether the diverging results are not due simply to optical illusions or to the yet insufficiently developed microscopical technique, but that this remarkable activity of men who have all the facilities for original microscopical work at their disposal denotes their firm belief in the parasitic nature of cancer, they leave no one in doubt. Prof. Schroen studied phagocytosis in carcinoma, and he asserts that he could see the leucocytes penetrate into the epithelial cells and carry off the parasites they found there. And if we learn further from such an authority as Metschnikoff of Paris, that there is in rabbits a peculiar parasitic disease known as coccydiosis, which resembles cancer in many respects, it seems almost a certainty that parasitic bodies exist in the cells of cancerous tissues.

The uninitiated ask us of what use are all these investigations and what difference it would make in the treatment of malignant disease if it should be finally settled that a microbe is at the bottom of cancerosis ; but we know such a discovery would make all the difference between a vague groping in the dark and a fully recognized scientific fact that would stand the test of confirmation, and it is now a matter of common experience that if etiological factors do not influence the treatment of a full-grown disease the simple knowledge of its cause places it among the preventable diseases that attack the flesh of man. For when we know what causes a disease we have already learned how to prevent it. Only a few years ago, tuberculosis was regarded as a constitutional disease, sent into the dwellings of man as his most deadly foe, against which no effort was of any avail as soon as the disease had lodged itself in the delicate apices of lung-tissue, and with the exception of a few extremely fortunate cases one-sixth of the human race was laid in the grave, a sacrifice to the idea that the disease was constitutional, was therefore hereditary, and no drug, of course, could be found to eradicate the hereditary or inherited havoc in the human body. To-day, tuberculosis has come to be one of the preventable diseases. Why ? Because it has been proved that a bacillus is at the bottom of it, that this bacillus finds a ready entrance into an injured mucous membrane and hence into the deeper tissues, that an injured mucous membrane is often the consequence of a simple catarrhal condition, that the bacillus is finally expectorated and if such expectoration is carefully guarded from drying and evaporating, is, in short, sterilized, it will harm nobody and will be laid at

rest with its victim. A few months ago, I was called to attend a young man in the third stage of consumption. A brother of his had died less than a year before, another a year previous to that. Father and mother were and are perfectly well, there was no consumption on either side of the family, and yet two children were dead, a third was only a few months more for this life, and what was still worse a sister and a younger brother were fast going the same road. When I entered the room on my first visit the patient sat on a couch and before him were spread two or three sheets of newspaper and on those every little while a lump of his bacillus-teeming sputum was deposited in order, as his mother said in her inimitable shrewdness, to save the carpet. That explained the condition of the family. It was not necessary to describe the disease of these stricken people to a hereditary tendency in the children. The first boy had acquired his disease in a tin shop and, probably, from a fellow-workman, and the sputum on the newspaper sheets did the rest, for to my surprise not one of the attending physicians, before I saw the third boy at death's door, had thought that there was something else to be done than the saving of the carpet. But we know that in the proper disposal of the sputum lies the safety of those that surround a consumptive, and in this family alone the disregard of this most important rule cost practically the lives of five human beings. Tuberculosis is now properly classed among the acquired and, therefore, preventable diseases, and the idea that it is inherited fortunately belongs to the past and though we may not be able to cure a tuberculous patient any more than before we are able to protect those that care for such patients and even the patient himself from re-infecting his body with the death-giving vegetable organisms he expectorates in his sputum. If this is the case with tuberculosis, the most dreadful foe to the flesh of man, why should not the knowledge of a cause do the same for malignant growths?

The idea of heredity has warped the mind of man too much and has too often staid the hand of the surgeon when he could have dealt out life so easily, and his inaction or insufficient action nursed the death-preparing growth. Mafucci studied the question of embryonal susceptibility to infection and he came to this most significant conclusion concerning heredity: The embryo of a chick kills the bacilli of tuberculosis that threaten its life and though born marasmic as the result of the struggle, yet the chick has not inherited the disease of its parents, for after a long time it can die without tuberculosis of the organs. There is no similar experiment with cancer, but if the experiments of Mafucci mean anything they mean that the fate of the embryo is not so much decided in utero as outside of it; that the life of the young depends on the care that is spent in their bringing up; on the surroundings, whether they are reared in plenty or in want, whether they are matured in sunshine or in damp cellars, whether nature sends her smiles on the nursling or condemns it to early senility.

Dr. Snow, who in the Cancer Hospitals in London, has had as much experience with cancer as any other man, says that the belief in heredity is derived merely from popular traditions and is wanting in any sound basis

of scientific proof. Sir James Paget, the most eminent believer in the constitutional origin of cancer, could trace heredity in only one out of every three cases; while Mr. Sibley traced it in one out of every nine; and Thomas Bryant declares that in 222 of his cases heredity was traceable in only one out of every ten instances. Of 534 miscellaneous cases, Daniel Lewis traced 33 to heredity, *i. e.*, six in a hundred; and Gross found in 1164 cases of carcinoma *mammæ* only 55 or 4.72% of hereditary transmission. These are figures that tell a most important story. They tell with authority that heredity is not to be considered a decisive cause in the formation of cancer. Heredity is, perhaps, more an incident than a cause, for in many other affections, even the innocent affections of whose local infectious character none of us is in doubt, an equal proportion of near relatives may be found to have been ill, and this would be sufficient ground for easily convinced people to call such diseases hereditary. As physicians, however, it becomes us to stop a moment and consider the question, for extremely practical issues are involved and the views now common too often lead to unfortunate results.

If heredity exerts such a determining influence on the formation of cancer how is it that cancer attacks with predilection those structures of the body that are most subject to external irritation? There is the pylorus, over which the most irritating substances in the shape of indigested, badly masticated, badly digested food pass into the intestines; the portio vaginalis uteri with its accidents of married life, and parturition; the mammary gland with its incidents of lactation and friction; the rectum with its fissures and hemorrhoidal propensities; the lips, the tongue, the buccal tract, with their cracked and illy-cared-for mucous membranes; the scrotum with its liability to friction; the gall-bladder with its gall-stones. How is it that an inveterate smoker of clay-pipes is especially prone to cancer of the lip, a stone-mason to cancer of the lung, a chimney-sweep to cancer of the scrotum, a laundress (according to Dr. Snow) to cancer of the breast? Why is a married woman more liable to cancer than a virgin? Why will a jagged tooth plant its imprints on the tongue and cause this organ of speech to become cancerous? Simply because anything that will maintain a constant, though ever so slight a degree of undue vascularity of a part favors the development of a growth.

If heredity be such an imposing cause of cancer, how is it that cancer appears most often at a time of life when organs have passed their most active stage and the vitality of tissues has become conspicuously impaired? Because, as Dr. Snow so well says: "Malignant lesions are especially prone to attack degenerating organs and degenerating people," and it is in the nature of things that we all degenerate physically sooner or later as our fathers have degenerated before us and their fathers before them. This physical degeneration also explains why cancer has increased to such a degree. If heredity were the determining factor in the causation of cancer, why did malignant disease wait these thousands of years to show itself in such a dangerous increase? Cancer, according to Picot, is a much less

common disease among the aborigines in Asia, Africa, North America, than it is in Europeans and their descendants. It is easy to say why. First, because heredity as the cause of cancer has been too much exaggerated. Secondly, because our civilization with its life of competition, its malignant warfare for the bite of bread that is needed to keep up the strength of the body entails such a hardship, such a toil, such privation, such laborious and dangerous occupations, such anxiety and care, such mental distress, as the world has never known before. As a consequence of this ceaseless work and worry the organs that have by nature a certain time to run on and a certain to run back become old too young, and enter upon their stage of devolution before nature is ready to make this devolution a perfectly normal step.

In this stage of abnormal devolution, the tissues need only to be injured, or subjected to a continuous irritation, or be the seat of abnormal conditions in which the epithelial elements are in excess, and all the conditions are present for a growth to flare up in its worst malignancy, but these conditions can *prima facie* be prevented or, at least, removed.

A disease to be constitutional must belong to the constitution of an individual, "to his manner of being," and such a disease may justly be called hereditary, but one that is acquired by extraneous circumstances when the body is in a weakened state of ready receptivity can by no reasoning of the human mind be classed as constitutional. I venture to assert that there is probably no disease known to man that is constitutional in its origin and I am further inclined to give expression to my belief that with the advance of knowledge the unal causation of disease will replace the hazy enumeration of multiple causes of to-day. The one disease that might with some show of justice be called constitutional is that phase of syphilis that goes now under the name of inherited syphilis, but even this is not constitutional in the sense, and the only proper sense, of having a beginning, a middle course, and an end, for it is not an entity of disease, it shows no initial lesion, but is simply a continuation of the constitutional phase of syphilis in the parent, as is most clearly proved by the fact that where this inherited syphilis appears in the first years of its life, it is already in an attenuated form, and owing to this circumstance our streets and our houses are filled with the vestiges of this affection. All the diseases that go under the name of constitutional disease have a local origin and the constitutional phase is only a result of this local process, a continuation of it, and not the beginning and the all in all that is claimed to be at present.

This is most strikingly the case in malignant growths. To this day it has been maintained by some that for the production of these growths a peculiar diathesis or cachexia is necessary. A careful study shows no such thing. There is no cachexia at the beginning of the growth, but there is one towards the end of it. Cancer begins as a local disease and ends as a constitutional disease, and not *vice versa*. Unless it can be shown that the effete cancerous materials float in the blood and lymph before the cancerous mass appears in any spot of the body, we shall have to adhere to the

knowledge we have gained so far with our eyes and from the feelings described by our patients that cancer is first local and then constitutional, and this disposes fully of the notion that it is a constitutional hereditary disease, and removes one of the greatest barriers in the minds of surgeons to deal with such a mass properly and promptly. Cases are reported continually in which a blow or a contusion has formed the starting point of malignant disease; in which chemical and mechanical irritations have been the palpable causes of cancer; in which warts and moles and leucoma and wens and eczema and ulcers and other lesions known to be benign have become the soil for malignant growths. We may then fully subscribe to Dr. Snow's axiom "that no average species of malignant tumor in the adult ever appears without an adequate and generally ascertainable cause."

If I did not fear to weary your patience I could present to you the reports of competent and honest observers that have seen almost every kind of benign growth assume malignancy after a time. But if there are some that would not be willing to accept the mere statement of however competent an observer, perhaps they would feel inclined to believe the findings on the necropsy table as confirmed by the microscope. Dr. Leo Dickinson related to the Pathological Society of London, on January 2, 1894, the instance of a patient, 48 years old, carrying a rapidly growing tumor for a year, which at autopsy was about the size of a melon, presenting characters of fibro-myoma: "A portion had sprouted into the pelvic cavity and this had the structure of a spindle-celled sarcoma."

It makes, of course, all the difference in the world whether we consider a growth hereditary and constitutional, or local at first with constitutional effects afterwards. In the first case, no one would attempt to remove a growth unless by means that would change the constitution of the individual. The knife would be only a last resort, if it would be that. Arsenic and Conium and Hydrastis and other well-known drugs would be wholly relied upon only to be found wanting in the end, and the life of the patient would ebb away under the pitiless destruction of the growth, for, whether we would or not, we must at last see, if we would not remain blind for ever, that the history of malignant growths points to a local origin and that we must do all in our power to prevent these growths from becoming constitutional. Johnathan Hutchinson succeeded in putting his finger squarely on the pulse of this sore of the human race when, in 1882, he expressed his conviction in his paper on the "Origin of Tumors," read before the British Medical Association, that every cancer has a pre-cancerous stage, a time when it is not cancer, and one of the most far-reaching deductions has followed from this most inspiring idea. We have arrived at a stage when we can cope effectively with the scourge of cancer. All we have to do is to remove a growth before it becomes cancerous.

The cardinal distinction of a malignant growth from all other kinds of lesion lies in its behavior after removal. A kindly disposed growth will not recur after proper extirpation, while a malignant growth will recur unless the infected area is extirpated with it, and this is often an insuper-

able difficulty. This obstinate tendency of cancer to recur was formerly explained by the pernicious doctrine of constitutional origin of cancer. But as Dr. Snow says, "Modern science more correctly attributes this to the infective and autositic properties of the cells concerned, with the early transmission of nuclear fragment by blood or lymph currents to other parts than that primarily attacked." This infection can be forestalled only by the earliest possible removal of a growth. Only when there is no recurrence can we consider the patient safe, and this brings us once more face to face with the deduction from Hutchinson's teachings, that the best way to prevent the formation of cancer is to remove the base on which it is likely to grow. In a condition such as that of malignant growths, where the prognosis is the question of greatest importance to the patient, where delay on account of diagnosis often means the turning of the balance between life and death we must not hesitate to choose the safe path of early extirpation of however benign a tumor. For there can be not the least doubt now that benign growths are liable to become malignant growths, and there is no safe guide for us to determine when a growth stops being benignant. There is no risk in removing benign growths, but there are undeniable risks in leaving them in the body unmolested or at the mercy of plasters, pastes, and powders. We must understand that a malignant growth is a spectre not to be layed by incantations to the powers of medicine or by a do-nothingness that likes to style itself conservatism. It requires the most active scientific measures both for prophylaxis and cure.

The prophylaxis of malignant growths then, properly resolves itself into two stages or forms :1) Before any cancer has appeared, in order to prevent the formation of such a growth the health of the individual should be cared for, especially at the time of life (34 in women, 40 in men) when the tissues and organs begin their downward road to dissolution. When a part of the body is injured, especially by a blow, we must not make light of the injury but give the part of the body rest until all vascular changes consequent to the injury have disappeared, and when the injured portion is a pendent member of the body, it should be bandaged and supported in a sling. Ulcers and inflammatory lesions must not go untreated until they assume an angry character, but should be cured by medicine, strapping, or extirpation. We should be on the watch for all kinds of irritants ; if mechanical, like an offending tooth, the irritant should be abandoned ; and chemical irritants, like alcoholic and indigestible spicy and acid food, should be avoided. Parts that are subjected to irritation during certain occupations like the scrotum, which suffers from contact with soot or the breast, which is constantly rubbed during the process of heavy washing, should be protected by strapping with soft cloth, especially when they are already cracks in the integument. And, lastly, every growth, solid or cystic, should be extirpated with capsule, and all, for benign tumors carry with them the possibility of malignancy and from this possibility "not even the simplest cyst is exempt."—2) After cancer has appeared, it must be removed with a view of preventing its recurrence after extirpation. This can be accomplish-

ed only by removing at the earliest possible moment not only the offending growth but also the whole infected area, without even once allowing the knife to enter the cancerous field. Then the most carefully selected medication will be a further aid to the system.

It will be seen that this second form of prophylaxis is identical with the care of malignant growths, but the idea is so prevalent that all that is necessary for the cure of malignant growths is their prompt removal that it seems proper to include this stage of treatment in the prophylaxis of recurrent growths.

All that has been said about malignant growths applies alike to sarcoma and carcinoma, both of which are included in the general term of cancer. Both varieties are recurrent, and, therefore, malignant growths, with this difference that sarcoma has a tendency to recur in the original seat while, in addition to this, carcinoma is liable to attack also distant organs and tissues. It has been shown, however, that sarcoma also involves the nearest lymphatic glands secondarily, although this infection does not occur so early as in the epithelial cancers. In cases of sarcoma, therefore, as well as of carcinoma the knife should be wielded beyond the infected area.

It now remains to show the application of these principles to uterine and mammary cancer.

Next to the pylorus, the uterus is the organ most often affected by cancer. Different observers place the frequency of uterine cancer differently, but all agree that from one-third to one-half of all the cancers in the female sex occur in the uterus. This organ begins its obsolescent stage about the thirty-fourth year of life, and this marks the danger line for a woman, most especially for one married, that has born children and is of the poorer classes of society. The injuries of the uterus attendant upon parturition, miscarriage or coition should be carefully remedied, for they are well known to invite the formation of cancer. When a lacerated cervix is neglected the lips, in a state of vaso-granular hyperplasia, become exposed to chronic irritation in the processes of locomotion and coition, not to speak of the irritating discharges from the diseased endometrium that is usually present in lacerations of the cervix. The laceration should, therefore, be remedied as soon as the involution of the uterus had taken place, and in the operation for lacerated cervixes care should be taken to remove all cicatricial tissues, for a cicatrix may not only cause nervous disturbances from pressure but is also very prone to degeneration. Chronic endometritis requires the curette and indicated remedies. Of benign tumors, the fibro-myomata, the polypi, the adenoma, all are liable to malignant degeneration and should be removed as early as possible. Though there are different opinions concerning the treatment of fibro-myomata, and every individual case should be decided by its requirements, yet it would seem that removal by the knife was more clearly indicated from the stand point of prophylaxis than treatment by any other method. As to polypi, the opinions do not seem to be divided; and adenoma, a growth occupying a transitional stage between simple inflammatory hyperplasia of the glandular structures of the endome-

trium and carcinomatous degeneration, calls most certainly for immediate operation. When there are more or less irregular hemorrhages from the uterus, immediate examination should be insisted on, and if the finger obtains the impression of friability or Spiegelberg's sign as though the finger were passing over wet india-rubber, we need not apply to the microscope to tell us that we have a cancer of the cervix to deal with. In the absence of hemorrhages, sanious or greenish leucorrhœa should impel us to look for cancer. Cancer of the body, on the other hand, can be decided only by microscopic examination of scrapings from the interior of the uterus. When the cancer has extended from the cervix to the body of the uterus it may be taken for granted that the disease has spread elsewhere and the complete removal of the womb would at best be only a palliative measure. As cancer of the cervix, however, is much more common than cancer of the body, an early diagnosis is often feasible, and when such diagnosis is made nothing but prompt vaginal hysterectomy will satisfy the demands of the case. The uterus being a body, so to speak, within the body, offers a fair field for success to the surgeon. Curtis computed that 35.8 to 44.8% of the cases treated by vaginal hysterectomy were cured. This unusually good result will be bettered even when operations will be performed earlier in the disease, before there is the least fixation to the other structures of the pelvis, and when the uterus will be given as wide a berth as possible. Pratt's hysterectomy by enucleation with ligation of such vessels only as are bleeding would have to be avoided if we work on the only surgical basis we should work on in malignant disease, viz., outside the infected area.

The breast offers even a better field for thorough surgical prophylaxis than does the uterus. In studying the tumors of these two organs we are forcibly struck with the relationship that exists between the breast and the uterus. In a case reported by Dr. Evans to the Southern Surgical and Gynecological Association, in which cancer appeared simultaneously in the breast and the uterus, the disease seemed to be checked and retarded in the uterus when it was most active and destructive in the breast, and *vice versa*. Traumatism plays here the same mischief in starting the formation of growths as it does elsewhere. An injured breast should be given perfect rest and the arm on the corresponding side should be held in a sling. All fissures should be healed; the inflammatory deposits treated with Bryonia, Phytolacca and other such remedies, and if the deposits should prove intractable they should be excised, for such lumps can no more be considered harmless than can other benign growths. The age of obsolescence in the breast begins according to Dr. Snow, a few years later than in the uterus, about thirty-eight, although cases of cancer have occurred as early as thirty-four. Below this age there is much probability that a tumour is non-malignant. This, however, needs to be considered only for the purpose of deciding as to the extent of the operation to be performed. Aspiration may have to be used to diagnose a cyst from a solid growth, and an exploratory incision and the further use of the freezing microtome, the nitric acid test of Stiles, or Mixer's punch may have to be resorted to in order to

arrive at a proper diagnosis of a tumor; for though all benign tumors should be removed as a measure of prophylaxis, yet their removal does not necessitate a mutilating operation as does cancer. A cancerous growth cannot be considered extirpated until the whole infected field, which often includes lymphatics, fat, connective tissue, muscle, fasciæ and even periosteum, is removed with it. This has been accomplished so admirably by Willy Meyer that I will venture to give a description of his operation.

He makes his skin incision liberal around the nipple up into the axillary cavity, about an inch and a half to two inches further than it is usually made, in order to reach the tendon of the pectoralis major on the humerus; then he makes another incision from the clavicle at the junction of its middle and outer thirds downward, at right angles to the first wound. (This second incision may be lengthened upward above the clavicle, if we wish to clean out the supra-clavicular space). The three skin flaps with just enough fat to prevent future necrosis are now turned back, and we have exposed before us the insertion of the pectoralis major muscle on the clavicle and the sternum, the insertion of the pectoralis major on the humerus and the cephalic vein in Mohrenheim's sub-clavicular space, the borders of the latissimus dorsi. He then divides the tendon of the pectoralis major close to the humerus, follows the muscle down to its insertion on the clavicle where he cuts it off down to the sternal extremity of the bone, in order to bring to view the contents of the axillary cavity and the infra-, the sub-, (and if desired the supra-) clavicular spaces. The fat, the glands and the lymphatics of these spaces are freed from the lower border of the sub-clavian and the axillary veins downward, then are divided on the outer side from the fat in the upper part of the sulcus bicipitalis of the arm, and beginning at the border of the latissimus dorsi are raised and cut from the outer side inward. This excision is continued so as to include the fat on the sub-scapularis and the *teres major*, until the chest wall, *i.e.*, the ribs, the intercostal and part of the *serratus anticus major* muscles, is exposed and the inferior surface of the pectoral muscles is reached. The tendon of the pectoralis minor is then divided on the coracoid process, the breast and the muscles are gently elevated in order to put the *arteriæ perforantes* of the pectoralis major on the stretch, and these are clamped before divided. Next the pectoralis major is amputated at its insertion on the sternal extremity of the clavicle, and both the major and the minor at their insertion on the ribs and the sternum, the knife being held close to these bones, and the cancer is extirpated. The wound is sutured, dressed for healing by moist blood-clot, and the resulting granulating surface is grafted with skin in eight or ten days without narcosis, ethyl chloride being used as a local anæsthetic for the field from which the grafts are taken.

At about the same time, Halsted, of Baltimore, operated on a similar plan for cancer of the breast, but his operation is inferior to Meyer's, for the reason that he splits the bellies of the pectoral muscles and thus enters the infected field, which Meyer absolutely avoids. Accepting the statements of Heidenhain that the pectoral muscles are involved in cancer of

the breast, Meyer extirpates the breast, the contents of the axillary cavity and of the sub- and infra-clavicular spaces, and the pectoral muscles, all in one mass, making an operation that is anatomically and surgically perfect for the radical removal of a cancerous breast.

We know that recurrences after operations for cancer may be traced to inefficient methods of operation. We should then expect, as the operation for cancer of the breast has become more thorough, that the rate of cures has grown and the number of recurrences has become less. This is, indeed, shown by the statistics at hand. For a long time in his practice, Billroth never cleaned out the axilla unless the glands were visibly enlarged, and he considered a cancer cured if it did not recur within one year. His cases, collected and tabulated by Winniwarter, showed 82 per cent. of recurrences even for that one year. Gross collected 1842 cases from different surgeons that had followed Volkmann's advice of removing the glands of the axilla in every case of cancer of the breast and of taking three years instead of one as the limit for recurrence, and he found about 65 per cent. of recurrent cases. The advice of Cross and Gerster to remove the glands before touching the breast did not alter the percentage of cures. Bull reports a cure of 26.6 per cent. out of 75 cases, a better proportion of cures than any previously reported, if we take into account the time his patients have remained free from cancer, the average six years. Since then, Dr. Wm. S. Halsted published the history of nearly 50 operations for cancer of the breast that he had performed between June, 1889, and January, 1894, removing the breast, fat, glands of the axilla, infra- and supra-clavicular region in one mass. He gives a cure of 94 per cent., something that has never been reached before. If we make even an allowance in his figures because he has included in the list of his operations those that he had performed as late as February, 1894, a much too short a time for ultimate judgment, nevertheless we cannot desire a better object-lesson than the one here presented that success in operations for cancer depends upon the early extirpation of the growth and upon the thoroughness with which all infected tissue is removed from the body.

To summarize, we may then say:—

1. That heredity should not be considered a cause, but an incident of cancer.

2. That though the etiological agent of cancer is not yet definitely found, yet data are accumulating to show that cancer is probably of a parasitic nature and contagious.

3. That though the cause of cancer is not known the circumstances occasioning the growth of cancer have been found in injuries, chronic irritations, lesions and growths otherwise known as benign.

4. That hence we can best prevent the formation of cancer by removing these different apparent causes of malignant growths.

5. That cancer usually appears at a time of life when the organs and tissues enter upon their stages of devolution; hence the body should be strengthened particularly at that crisis by the best hygienic and medical measures.

6. That cancer always appears as a local disease that manifests its constitutional effects after the extension of the disease through lymph channels.

7. That our aim, therefore, should be to remove a cancer at the earliest possible time, before the lymphatics are affected.

8. That in view of the fact that the prognosis is of the greatest concern to sufferers from cancer, niceties of diagnosis should not cause delay in operating. The minute diagnosis may be left even till after the removal of the tumor.

9. That the free use of the knife is the best treatment of cancer: All operations for cancer should be performed outside the affected area.

10. Homœopathic medication is indicated throughout the whole course of the disease, but we must remember that cancer is essentially a surgical disease, that we have an infected area to deal with, and no medication can be of any permanent value so long as the least fragment of infected tissue remains in the body. After extirpation, proper medicines may do great service.—*The North American Journal of Homœopathy*, March 1896.

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VOL. XV.] **May. 1896.** [NO. 5.

A COURSE OF CLINICAL THERAPEUTICS.

By DR. P. JOUSSET.

Lecture III.*

SUMMARY: Miliary Scarlatina, its characteristics and its treatment by Aconite; hygienic care during convalescence; albuminuria in scarlatina and its dangers,—treatment by tuberculine; criticism on the use of baths in the convalescence from scarlatina; contagion takes place during the febrile period.—Cancer of stomach and chronic gastritis—differential diagnosis.—Employment of the Liver prepared after the method of Brown-Séquard in the treatment of diabetes.

In bed Number 1, there is an infant attacked with *Miliary Scarlatina*.

Miliary Scarlatina, as distinguished from *Smooth Scarlatina*, is characterized by a mixed miliary eruption more or less abundant. This miliary eruption may be general, but more often appears on the hands and forearms.

In this form, angina is always very marked and often assumes a considerable degree of severity. The epidemic which Huxham has described under the name of gangrenous disease of the throat was no other than an epidemic of miliary scarlatina. We also have observed, in the department of Vienne, an extremely fatal epidemic of miliary scarlatina, in which death occurred from the complication of diphtheritic angina.

* *L'Art Medical*, Février 1896.

Miliary scarlatina is not always so grave; it is distinguished from smooth scarlatina by a more intense febrile movement and by a longer duration, the decline of the fever never taking place earlier than the eleventh to the fourteenth day.

Hahnemann has proposed *Belladonna* in the treatment of scarlatina, but he has remarked that in miliary scarlatina it is *Aconite* which is the principal medicine. You can see in the wards three cases of this form of scarlatina, all of whom have had angina and an intense fever; in one of them, in the children's ward, the miliary eruption is extremely abundant and covers the whole body.

In these patients the febrile movement declined on the eleventh day. The desquamation followed the usual course, and it is probable the convalescence will be without complication.

The treatment which we adopted, and which a long clinical experience has caused us to regard as the best, is the alternation of *Aconite* and *Belladonna*, a spoonful every two hours. The potion of *Aconite* contained 10 drops of mother tincture in 125 grammes of water, and that of *Belladonna* only three drops of the tincture in the same quantity of water.

If this treatment does not succeed, I will prescribe *Ailanthus*, a medicine which is indicated by a very high temperature and which has been given with success, chiefly in the United States. Do not forget that this treatment is that of the common form. *Arsenic* and *Lachesis* ought to be prescribed in the malignant and the hæmorrhagic form.

If diphtheria presents itself in our patients, we will not hesitate to prescribe the serum of Roux or the streptococcus serum according as the microbe of Loeffler or the streptococcus preponderates in the false membrane. Do not forget, gentlemen, that albuminuria is the gravest complication of convalescence, that this complication may come on slowly, even after four or five weeks, whence arises the necessity of particular hygienic prescriptions. The patient ought to remain in bed till the fever and the eruption have totally disappeared. He ought to keep to his room till the end of the sixth week, that is to say, during all the time the development of albuminuria is expected.

We say the patient ought to keep to his room, because we have seen grave nephritis with uræmia and convulsions brought on by passing from one apartment to another.

A propos of nephritis which may develop during the convalescence of scarlatina, we will make two remarks: First, that exposure even to the open air is not a necessary cause of the development of this complication. Thus, in epidemics which I have observed in the country none of the patients could remain in the room for forty days, because among peasants there is but one room common to all, and open to the wind on all sides.

If, in these epidemics, I have observed a large number with albuminuria and anasarca, I have observed also a certain number of infants, who have remained absolutely exempt.

On the other hand, I ought to say, that notwithstanding the most stringent precautions, notwithstanding the most intelligent hygienic attentions, certain patients, a very small number it is true, contract albuminuric nephritis. We will not conclude from these facts that the hygienic precautions, upon which we have laid so much stress in the treatment of scarlatina, may be neglected. Thanks to absolute confinement that we impose upon convalescents for six weeks, the number of patients that are attacked with consecutive albuminuria is extremely limited.

A young girl, whom you have seen in a little bed in the female ward, had presented at different times, traces of albumen in her urine. These have definitively disappeared after a few days' treatment with *Tuberculine* in the 6th dilution.

It is two years I have had occasion, in my clinique, to speak to you of this medicine, and I have related to you a certain number of observations which demonstrate its efficacy.

The albuminuria, which supervenes during the convalescence of scarlatina, is always a grave complication. It sometimes causes rapidly fatal accidents, and when it passes into the chronic state it leaves the patient in a pathological state which always terminates in death after a number of years more or less considerable.

Before quitting this subject I ought to guard you against a practice almost universally adopted and which I reject, because it is useless and may be dangerous. I speak of baths which are given to patients before their first going out, in order to prevent them from carrying the contagion outside.

These baths, in the opinion of those who prescribe them, ought to remove the last pellicles of desquamation, and thus prevent the communication of scarlatina at the stage into which the convalescent must enter.

This means is ridiculous, because the bath, whether accompanied or not by friction, removes the pellicles already detached, but powerless against those which will detach in subsequent days.

I add, that numerous facts have demonstrated to me that scarlatina is contagious during the febrile period, and not during that of desquamation.

I have said that the bath during convalescence may be dangerous, because I have seen some cases of albuminuria arising from this cause.

In bed No. 13 of the male ward is found a patient, aged 66 years, very emaciated and suffering from chronic vomiting.

To what might be due this great emaciation and these continued vomitings? The diagnosis rests between cancer of the stomach and chronic gastritis.

The character of the vomitings is the first sign which we ought to analyse. The vomitings occur daily, are but little abundant, and consist of gastric mucus and a rather small quantity of the debris of the ingesta.* They have not the characters of the black vomitings so common in cancerous ulceration of the stomach; nor are they like the enormous vomitings which come on every two or three days often containing the debris of the food that had been taken for several days, which, with dilatation of the stomach, constitutes the certain sign of cancer of the pylorus.

The examination of the epigastric region does not reveal the existence of anything hard, flat or roundish. And finally this patient has preserved his appetite which is a sign of a certain value and which allows, in this case, to dismiss at once the diagnosis of cancer of the stomach.

How do we justify the diagnosis of chronic gastritis? In his youth he used to drink in excess and every morning, had the phlegm. Now the use of spirit and wine however moderate gives rise to insupportable pains. In short, the large quantity of mucus in his vomitings demonstrate an inflammatory state of the mucous membrane of the stomach.

Another lesion, also of alcoholic origin, has developed concurrently in this patient. His liver is extremely small, and, although there is yet no ascites, the development of veins in the abdominal parietes in which the current of the blood is reversed and directed from above downwards, allows us to diagnose atrophic cirrhosis.

This patient has been placed on a regimen of milk and porridge. We have prescribed for him *Nux vom.* 6, 2 drops in 125 grammes of water, 4 spoonfuls during twenty-four hours.

Under the influence of this treatment and regimen the vomitings have completely ceased, the patient has gained strength, and the amelioration of the general state has been incontestible. But tired with the regimen and the hospital, the patient is going away.

In concluding this lecture, I desire to point out to you a new treatment of diabetes. I have spoken to you several times of the treatment of this disease with pancreas prepared after the method of Brown-Séquard, and administered by the mouth.

Along with rapid and durable success, this method has also as its results absolute failure, particularly in diabetes gras. We have thought that it will be good, in these cases, to replace the pancreas by the liver. We have accordingly administered the liver thus prepared to some diabetics, and though these trials are still too recent to enable us to come to a decisive conclusion, we point them out to you, in order that you may for yourselves verify the efficacy of this method.

In three cases, females attacked with very chronic diabetes, the pancreas had never done any good. I have, by the new medicine I have pointed to you, obtained in one of them a diminution of 8 grammes of sugar, in another a diminution of 20 grammes after three weeks' treatment and without any strict regimen; and finally, in the third the sugar has fallen from 90 to 49 grammes; and in all the quantity of urine has diminished.

“CRUELTY IN PROPAGATING HOMŒOPATHY.”

Under the above rather singular heading a series of letters from Dr. John W. Hayward are appearing in the *Homœopathic World*.

Dr. Hayward tells us that Dr. Clifton, Sen., at the meeting after the Congress dinner at Leeds, “contended that where there is no homœopathic practitioner it is really cruel to convince the people that homœopathic medical treatment is superior to old school treatment,” and considers the placing of the matter before us in this light by Dr. Clifton, as “thoughtful, wise, and opportune.”

Dr. Hayward goes much further than Dr. Clifton, and thinks that it is not only cruelty to the laity but to the members of the profession also to convince them of the truth of homœopathy. He thus puts the case of the laity in his first letter published in March :

To convince fathers of families that in infantile convulsions, infantile diarrhoea and cholera, scarlet fever, diphtheria, &c., homœopathic treatment saves many lives that would be lost under old school treatment, and yet not to provide them with homœopathic practitioners, is undoubtedly cruel. What must be the feelings of a father so convinced when watching over a beloved child suffering under one of these diseases, when told by his old school practitioner there is no hope, and yet is unable to procure homœopathic treatment ? Perhaps such a father may appeal to his medical attendant to try homœopathy, but in all probability he will have to confess that he cannot, because he does not know what the homœopathic treatment would be ! Surely we ought to have left such a father in the peace of ignorance ! To convince husbands that in puerperal fever, puerperal convulsions, uterine hæmorrhage, &c., under homœopathic treatment many patients recover that would die under old school treatment, is no less cruel. What must be the husband's grief when he sees his wife dying of one of these diseases, and yet he cannot get homœopathic treatment ? Nor is it less cruel to convince mothers that in pneumonia, bronchitis, inflammation of the kidneys, rheumatic fever, &c., many patients can be saved that would be lost under the old school treatment. What must be her agony when he sees her husband—the family bread-winner—dying of one of these diseases, when there is no homœopathic practitioner within reach ?

These are cases where there was, so to say, no previous taste of homœopathic treatment, and where no homœopathic practitioner was and is ever available. But it may and often does happen that people had had experience of the benefits of homœopathy and yet cannot obtain those benefits when required. These are cases of

peculiar hardship, and Dr. Hayward has noticed them as follows :

Another way, in which this cruelty is practised is by young practitioners, late medical officers at some of our hospitals or dispensaries, making a temporary settlement in small towns and by demonstrating the superiority, detaching people from ordinary medical attendants, and then, on hearing of better prospects in some large town, leaving these people to have to submit again to old school treatment and to return, cap in hand with humble apologies, to their old medical attendants.

Dr. Hayward is so moved by this cruelty that he goes the length of saying "that unless we, at least, do all we can to provide the public with practitioners who can treat them homœopathically, we should not only cease ordinary propagandism, such as the issuing of the League tracts, but that we should also cease to publish dispensary and hospital reports, &c. Influencing the public by such means is evidently a cruelty ; and the people so influenced ought not to be blamed if they appeal to homœopathic chemists and domestic treatises." The cruelty is admitted, but ought we on that account to hide the light of the truth, and stifle the voice of conscience ? Dr. Hayward, as one of the greatest and most zealous living propagators of the truth in Homœopathy, feels the force of this duty of making known the truth to all men no less than he feels keenly the cruelty that must necessarily follow as the result of that preaching, for we find him softening down somewhat and saying—"Let us either cease to proselytise, or let us make earnest endeavour to have the whole profession properly and fully educated. Philanthropy and humanity dictate the latter course ; therefore let us make earnest effort to have all medical students taught, during the materia medica course, the homœopathic uses of medicines, so that after they have become practitioners they may be able to try homœopathic treatment when old school treatment does not succeed. By so doing we shall at least be endeavouring to remove the stigma of homœopathic cruelty from the future."

The distinction between "doing our best to provide the public with practitioners who can treat them homœopathically" and "making earnest endeavour to have the whole profession properly and fully educated," may be considered to be hair-spitting, though we must admit it is real. The public may be provided with homœopathic practitioners from abroad, when they cannot be had from the profession at home. In such case the difficulty of

fulfilling the condition required by Dr. Hayward before even the attempt is made to proselytise, may be less than fulfilling the second alternative condition, that of endeavouring to thoroughly and properly educate the whole profession, provided the law would not interfere with the importation of foreign practitioners. But if, as we believe it is likely to be in England, the legal difficulties are great, then the fulfilment of the first condition will depend upon the fulfilment of the second.

Supposing that earnest endeavour is made to educate the profession, what guarantee or certainty is there that the endeavour will be crowned with success. If, as is probable, the endeavour fails, or at least, does not meet with the amount of success desired, must those, who are convinced of the truth of homœopathy, keep their lips sealed till in process of time the whole profession should acknowledge that truth? And would not the very fact of the cessation of proselytism postpone that time indefinitely? In fact, what better excuse could the dominant profession find for rejecting homœopathy without incurring blame than the fact of the followers of the system ceasing to speak in its favor and maintaining an ominous silence?

Dr. Hayward would not only have us cease ordinary propagandism, such as the issuing of popular tracts, but would require us not even "to publish dispensary and hospital reports, &c." What the "&c." includes, we cannot say, but to be consistent it ought to include the holding of meetings, the establishment of societies, and even the very establishment of hospitals and dispensaries. For if we are not to publish the reports of our hospitals and dispensaries, what are we to do with them? Keep them all to ourselves? Suppose we do this, how can we prevent the patients, who have derived benefit from our dispensaries and hospitals, from speaking favorably of these institutions and of the system of treatment adopted in them, to their relatives and friends and to the public at large? And if they do, as they cannot but, would not that be the most effective propagandism? Now when such propagandism is inevitable what would be thought of the physicians and surgeons of these institutions if they do not publish the reports of their cases? How can we ask the public to contribute towards the maintenance of these institutions, if the reports of their work, by which alone their utility can be judged, be kept

back from them? Hence, as we said, to be consistent, we must not ask people to help in the establishment of homœopathic dispensaries and hospitals, till we have succeeded in converting the whole profession to homœopathy.

Now let us consider for a moment what this stern resolution of Dr. Hayward is calculated to lead to. It would defeat the very object which Dr. Hayward's philanthropy is aiming at. Homœopathic dispensaries and hospitals are not to publish reports of their cases illustrative of the beneficent applications of the best therapeutic law yet discovered, while old school dispensaries and hospitals go on publishing theirs illustrative of old errors and barbarities! Homœopathic physicians are not to speak a word in favor of what they believe to be the most scientific and humane system of medicine for fear of proselytism which may lead to sentimental cruelty, while they must allow their opponents forming the majority of the profession to denounce them in no measured terms and deprive them of their rights and privileges!

If we pursue this policy of mistaken humanity how can we succeed in educating the profession? We cannot compel the already existing medical schools to teach their students the homœopathic uses of the *materia medica* along with their allopathic uses, except by legislative interference. This legislative interference can only be secured in England by an authoritative appeal to parliament, which ultimately means an appeal to the public,—to the people and their representatives. But how can the public respond to this appeal if they are kept in ignorance of what homœopathy is and what it can do? The cruelty, which Dr. Hayward is so anxious to avoid inflicting, would, in our humble opinion, be the most effective stimulus to urge the people to demand of their family physicians a knowledge of homœopathy. And the more keenly and widely the cruelty is felt the wider and stronger will be the demand which it will not be easy for those physicians to ignore. It is partly in this way, if we are not mistaken, that homœopathy is spreading among the members of the profession. Where conscience and reason and humanity fail, interest very often succeeds. We know of many here in India taking to the study of the new system simply from fear of losing their patients.

Suppose anyhow we succeed in inducing the old school educa-

tional institutions to teach the homœopathic uses of drugs along with their empiric uses, can we rely upon the present professors of the *materia medica* for this teaching? Would they be competent for this new duty? Dr. Hayward seems to think they are competent. "Medical students," says he, "are compelled to pay for and attend classes on *materia medica*, the ultimate object and main purpose of which are to teach them the uses of medicines—presumably all the uses—the relationships of medicines to diseases, all the relationships, homœopathic as well as allopathic and antipathic. *Materia medica* teachers, therefore, by not teaching students the homœopathic, so far defraud them of part of what they have paid for. * * This defective state of medical education ought not to be allowed to exist any longer; and I would like, in your next issue, to show how it can be remedied." We should like to hear what he has to say further on the subject. Meantime he appears to us to question not the competency but the honesty of the professors. We beg leave to question both. They are as much wanting in the necessary knowledge, as they are in the inclination. Hence in every institution there must be professors of homœopathic *materia medica*, in addition to the old ones. Nor would this be enough without arrangements in the hospitals attached to these institutions for clinical demonstration of the homœopathic uses of drugs. Now just consider for a moment what this means. It means that every institution should have a double set of professors in all the subjects of study, and a double set of wards in the hospital. For it would not do to teach the homœopathic uses of drugs to the classes of *materia medica*, while the professors of medicine, of surgery, of ophthalmology, of midwifery, &c., are teaching after their old-fashioned ways.

How far this would be practicable, especially in conservative England, is more easily imagined than described. Unless some thing most unexpected, something bordering on the miraculous, happens this happy state is not likely to be realized within a measurable distance of time. Indeed the time is not likely to come at all if believers in homœopathy are to cease from proselytising,—if, in other words, they are to cease from giving out their honest convictions. We cannot help wondering that Dr. Hayward should not have seen through the legitimate consequences of his

proposition. He should pardon us if we think he has been rather over-sensitive in the matter. For the cruelty he speaks of as regards the laity, is after all the inevitable lot of humanity all the world over. The grief at the death of our nearest and dearest must be inconsolable, and must always torture the mind with the idea that it might have been averted if something else had been done than what was done. This is nature and ought not to be regretted. It is one of the many merciful provisions which lead to progress and amelioration of our condition.

We have now to consider the case of the members of the profession as put by Dr. Hayward. As will be seen, by members of the profession he means not only actual members, that is, practising physicians old and young, but students who are preparing for the honor of becoming members of the profession. He thus speaks in their behalf :

It is unfortunately a fact that should a physician, however old or eminent, be known to prescribe medicines homœopathically he becomes a marked man amongst his professional brethren, especially amongst the small fry, who, unfortunately, are the majority ; and if he persists in doing so, not only is he blackballed on seeking entrance to professional societies, but he is expelled from those of which he is already a member, and he is persecuted in every possible way both professionally and socially. Nor is this the worst in this matter ; an eminent and well-established practitioner can afford to despise and pity such persecutors, but not so one just entering upon practice or a student. Should a medical student be known to be at all favourably impressed towards homœopathy, he runs the risk of having difficulties thrown in his way as a student and at examinations : and however talented, however diligent and successful in his studies, however high honours he may take, however great a credit he may be to his school and teachers, and however high qualifications he may obtain, if after qualification he ventures to learn the homœopathic use of medicines in addition to the allopathic uses he was taught in his classes, he will become a marked man ; and if after beginning practice he should venture to prescribe medicines homœopathically he will become a professional outlaw. However honourable and honest he may have been acknowledged to be previously he will now be accused of being a dishonourable and dishonest man, and unworthy to be allowed to write for the journals of his profession or to join his profession's societies. Though he may have been considered to be fit for anything previously, it is now pretended he is unfit for any professional appointments, even that of parish doctor. Though before qualification he was led to believe that he might look forward to being appointed physician or surgeon or operating surgeon to his hospital, or demonstrator or even teacher at his school, now he has no such prospect ; all is changed ! Then

he was a frequent and honoured guest at the houses of his professors ; now he is cold-shouldered in the streets and considered unworthy of social civilities.

Dr. Hayward puts the case of the younger members in another light :

To a clever, high-spirited, ambitious young man who is entitled to add M.D. Lond., F.R.C.S. Eng., L.S.A., D.P.H., &c., after his name, such treatment is extremely galling, and he cannot but view the influences that have brought it about as having been really cruel. He may well be excused if he reason somewhat in the following manner : Is it wise or even prudent in me to go contrary to the general opinion of the profession, and thus blast my professional and social prospects, for the sake of acting up to my convictions as to which is the best way to prescribe medicines ? Though I have learnt the homœopathic in addition to the allopathic use of medicine ; and though I am convinced that the homœopathic is the natural and scientific way, and the way most to the advantage of patients, am I wise in adopting it when I find it is so evidently a barrier to my being accorded my rightful position in my profession ? It may be best for patients, but is evidently not the best for my success in life. Had I not better have stifled my convictions and have followed in the path of the common herd ? Better, much better my friends had not persuaded me to study homœopathy ; then my conscience would not have upbraided me had I not practised homœopathically. It was cruel, very cruel—

“Where ignorance is bliss, ’tis folly to be wise.”

On seeing the results doubtless his friends will themselves regret they exerted their influence in this direction.

The cruelty spoken of above as regards members of the profession, is no new thing in the history of homœopathy. The first to feel it keenly and to experience its consequences in full measure, was the founder of homœopathy himself. The persecution which began with him has not ended yet, though a century has just elapsed since the truth first dawned upon his mind. No other physical truth, so easily verifiable, has been so utterly ignored and neglected by those whose imperative duty and vital interest it is to verify it. No other body of men, trained in scientific investigation, have acted more unscientifically and illiberally to their own brethren in this matter, than the medical profession. The result of this unscientific and illiberal spirit has been the unrelenting cruelty which Dr. Hayward has so forcibly described.

Hence Dr. Hayward contends it is not always a kindness to convince members of the medical profession of the superiority of homœopathy, till the whole profession has been indoctrinated with

[a knowledge of the homœopathic uses of medicines. Now if that had been the policy of Hahnemann and of his immediate followers, where would homœopathy have been in the present day? It would long have ceased to be of itself. It would not have died a glorious death at the hands of its persecutors. It would have met with the ignominious end of a suicide. When the members of the profession, who have been convinced of the truth, have borne witness to it so courageously all along, why should we, at the end of a full century when persecution has certainly lost much of its malignity and virulence, prove ourselves so unworthy of it by pursuing a cowardly policy? Even if the persecution had continued unabated or grown stronger we would not have been justified in abating a jot of our ardour for the propagation of the truth. "Go ye into all the world, and preach the gospel to every creature," is as imperative a command for religious as it is for other truth. And verily next to the truth which concerns the salvation of the soul is the truth which concerns physical health and life, upon which the well-being of the soul so much depends. Shall we deny and betray such truth for fear of persecution, or for filthy lucre, or for worldly name and fame? Has the degeneracy of the present generation proceeded so far? Is the medical profession being recruited by men who, though they may be convinced that a particular mode of treatment is the natural and scientific mode and most advantageous to patients, would not "go contrary to the general opinion of the profession," however erroneous, prejudiced and mischievous that opinion may be, but rather stifle their convictions because they do not lead to their success in life?

Dr. Hayward will, we trust, pardon us for our outspokenness. It is out of our high regard for him and for the sake of the cause in furtherance of which he has labored so zealously, so ably and so successfully that we have taken the liberty to speak so freely and strongly against what we believe to be his mistaken humanity. Our motto should be to do our duty unmindful of the consequences, which we must leave to the Supreme Disposer.

REVIEW.

The Practice of Medicine, A Condensed Manual for the Busy Practitioner. By Marvin A. Custis, M.D. Boericke & Tafel. Philadelphia. 1896.

THIS is a remarkably good book for the purpose for which it is intended, beautifully got up, handy, and eminently practical, so as to be really useful to the busy practitioner.

The author tells us in the preface that he has, in the preparation of this manual, consulted the standard works of both schools, and has been enabled to give in the descriptions of the diseases the latest definite views of etiology and pathology, and, in their treatment only those remedies that have a definite relation to the disease treated, and therefore those accepted by the homœopathic medical profession generally as trustworthy and accurate.

It could not be expected that in a small pocket manual of 300 pages the whole practice of medicine could be given in at all a full manner. But considering that no important disease has been left out, that even the latest found out diseases have been given with their synonymes, definition, etiology, pathology, symptoms, physical examination where necessary, diagnosis, prognosis, and treatment, considering that, in the last item, the most approved drugs have been pointed out often with their prominent indications;—the condensation of matter has been most marvellous indeed.

We give below a specimen of the way in which the author has fulfilled his task.

INFLUENZA.

Synonyms.—La grippe ; epidemic catarrh ; catarrhal fever.

Definition.—An acute, specific, infectious fever, characterized by intense pains over the body, catarrh of the respiratory tract, and great exhaustion.

Etiology.—Spreads from Russia where it occurs as epidemics. Nothing seems to influence its course. Directly due, presumably, to the bacillus of Pfeiffer.

Pathology.—No special lesions.

Symptoms.—Similar to the symptoms of bronchitis, except, influenza has higher fever, and severe pains throughout the body, with gastro-intestinal irritation, and profound prostration.

Complication.—Pneumonia ; bronchitis ; neuritis ; kidney disease ; insanity ; cardiac weakness.

Duration.—From five to six days.

Prognosis.—In uncomplicated cases, good. If complicated, the prognosis must be based upon the general condition.

Treatment.—Rest in bed ; and liquid diet.

REMEDIES.

Consult indication for remedies in bronchitis.

Aconite.—*Sthenic cases ; high fever ; full, bounding pulse ; anxiety ; restlessness, and fear of death.

Arsenicum.—Dr. Hughes considers this the specific remedy.

Bryonia.—*Severe frontal headache. *The patient is very irritable; desires to be alone. Fever; with full, hard pulse; *lips dry and cracked; the patient has a constant desire to wet them with his tongue. Tongue heavily coated. *Prostration; nausea and faintness upon sitting up. *The limbs feel heavy; with weakness and weariness in them. *Cough dry, with pains in the sternum.

"An efficient medicine when the bronchial mucous membrane is attacked and the general pains are tormenting."—*Dr. Goodno.*

Eupatorium Perf.—*For the "bone-pains."

Gelsemium.—This is the best remedy for the early stage. *Great prostration; with dull pains throughout the body. Pulse is soft, frequent and almost imperceptible.

"In early stage * * * generally the most efficient remedy."—*Dr. Goodno.*

Rhus Tox.—For Typhoid symptoms.

Sexual Ills and Diseases. A Popular Manual, based on the best Homœopathic Practice and the Latest Text Books. Boericke & Tafel. Philadelphia. 1896.

This also is a good book, though anonymous. The short preface gives its scope so well that we are reproduce it entire.

"Many 'popular' books have been written on the subject of sexual ills and their treatment, but none seem to be exactly what the people want; one is too full of moral and too scant of practical advice; another is too technical, and another gives all sorts of advice save the kind the book-buyer is looking for. The moral advice may be excellent but people do not buy medical books for it; so is technical advice, but people who want to treat themselves cannot understand it; so is the advice "go to a physician," but it is not what buyers of such books are looking for. This manual is intended to supply the missing practical book for sufferers from the many sexual and kindred ills; to give them plain, honest advice and the best treatment. The description of the diseases is necessarily limited to elementary points to be found in text-books, as anything more elaborate would be out of place in a work of this nature. The treatment is culled from the whole field of homœopathic literature. A number of clinical cases have been introduced to give readers a general idea of the way the remedy is arrived at by physicians.

"There are a good many false ideas inculcated by advertising

doctors in regard to "lost manhood," etc., and if this book succeeds in putting any fearful young man, or boy, straight on that subject it will not have been written in vain. A proper understanding of this and other sexual ill's by the public is necessary for their final eradication. Finally, let us emphasize, if it necessary to consult a physician do *not go to those who advertise*, but to your family physician."

This booklet is divided into three parts. In Part I. the various sexual ill's and diseases under twelve heads are described and their treatment given. In Part II. we have the *Materia Medica* which "is a condensed statement of the action, and of clinical results, of the various drugs named, and incidentally on the other parts of the body." Altogether sixty-nine drugs have been given, some of which are new and as yet unproved, such as *Avena Sativa*, *Bellis Perennis*, *Lappa Officinalis*, *Passiflora Incarnata*, *Sabal Serrulata*, &c. In Part III. we have the Clinical Index "which is designed to assist the reader in his search through the foregoing *Materia Medica*."

Thus it will be seen that this little book, though only a popular manual, intended for the lay reader alone, will be found to be very useful by the busy practitioner, to whom it will serve in many a case as a good refresher of the memory.

While according due praise to the book, we feel it our duty to take exception to a statement we find in the preface to the *materia medica* portion. The statement is: "The potentized drug, as the name indicates, is powerful to cure: but if not indicated, *i. e.*, if it is not the drug called for by the symptoms, it will do the patient no harm, which *would not* be the case were it taken in the crude material doses." Our experience, as we have never lost an opportunity to say so, is all the other way, and accords with that of all thinking homœopathic physicians and with that of the Master himself. The action of our attenuated drugs, though not violently injurious as that of the same drugs in material toxic doses, whether in homœopathic relation or not to the diseases for which they are administered, are really though silently injurious when not strictly appropriate, or when appropriate by their homœopathicity but not in the dose prescribed. This injurious action can only be detected by a careful watching of our cases.

EDITOR'S NOTES.

Death from Quinine.

Martha Hudock, aged seven months, of Freeland, Pa., died January 25th, 1896, from quinine poisoning. A servant gave the child a box of pills to play with. The lid became detached and the child ate the contents, some thirty grains of quinine. Dr. Wright, who was hastily summoned, was unable to overcome the effects of the poison with emetics, and the sufferer died in great agony.—*The Philadelphia Times*—quoted in the *Homœopathic Physician* for March 1896.

The Removal of Blood-stains.

Dr. A Bennkisser of Carlsruhe recommends the following method for cleansing blood-stained hands, instruments, sponges, nail brushes, &c :—Wash, without using soap, the hands or objects it is desired to cleanse in a basin full of tepid water, holding in solution a teaspoonful of tartaric acid ; then wash them in plain water. In dealing with porous substances or with textile fabrics, the tartaric acid solution should be carefully squeezed out of them before the final washing.—*The Practitioner*, April, 1896.

The Progress of Cremation.

We learn from the *Scientific American* (March 21, 1896) that the practice of cremation is increasing in France, but very slowly so far as the general public is concerned. "The furnace would often be idle were it not for the remains from the hospitals which amount from 2,000 to 2,500 bodies per annum. The apparatus employed is that of M. M. Toisoul and Fradet, and works by means of gas with a recuperator. Incinerations are accomplished in an hour, or at most an hour and a quarter, and the cost of the combustible never exceeds three francs per operation."

Enuresis of Over-Feeding.

According to Dr. J. P. Cobb, a very common cause of enuresis is the pernicious habit of feeding children too much proteid food. An excess of proteid food is not made use of by the system, but taxes the digestive organs to put it into less highly organised forms, to reduce it to excretory compounds. Much of this excess is eliminated by the kidneys as partially reduced peptones, imperfectly oxidized urates and allied compounds. A urine overloaded with these solids causes an unduly irritable bladder, the intrinsic nerve mechanism is subjected to unusually irritating impressions, and the reflex action of the lumbar center is more frequently and persistently invoked.—*New York Medical Times*, April 1896.

Treatment for Scorpion Stings.

Dr. E. L. Chalke, Civil Surgeon of Negapatam, Madras, has reported some cases of scorpion bite in the *Indian Medical Record*. In one of these reports he says that he has had "hundreds of such cases to deal with, and has tried various remedies to relieve the stinging

pain and burning sensation, and that the application of honey to the affected part acts the best, by producing almost instant relief." He adds if honey is not procurable at the time, a strong solution of sugar and water is a very effective and equally good substitute, and that ripe plantains squeezed and applied as a poultice to the affected part also acts speedily in subduing the pain and the burning sensation. We may add that treacle and brandy are almost as efficacious as honey or sugar. *Ledum* is a good internal remedy.

Transmission of Tubercle.

Jackh (*Virch. Arch.*, 1895, Bd. 142, Heft 1.) investigated the question whether the sexual glands or their secretions contain virulent tubercle bacilli. He used the testicles and the contents of the seminal vesicles as well as the ovaries of tuberculous patients who had died either of chronic pulmonary tuberculosis or of general miliary tuberculosis. Portions of the sexual organs or of the semen were introduced into the abdomen of guinea-pigs and rabbits. Of 5 cases in which portions of testicle or of semen were injected, positive results were obtained thrice with the semen and once with the testicular substance. All the rabbits remained healthy. Of three injections with ovary one gave a positive result. Examination of the young of tuberculous female guinea-pigs gave only one positive result. It appears, therefore, that the semen may contain virulent tubercle bacilli, and that transmission of tubercle from mother to child is not the general rule.—*Brit. Med. Jour.*, May 9th.

Salol.

Manceau (*Th. de Paris*, No. 156, 1896) says the powerful action of salol as against microbes is due to its spitting up, in any alkaline medium, into salicylic and sulpho-carbolic acids. Its internal use requires caution in fevers, in acute or chronic diseases of the kidney and arthritic cases with cuticular congestions. By utilising its property of melting at 42°C. (107.6° F.), Reynier and Isch-Wall have combined it with various other microbicides, and found a number of new antiseptics of which the type is liquid iodoformed salol; this compound increases in bulk as it cools, and is useful in filling up irregular bony or superficial cavities, fistulous tracts, etc. In suppurations of the glands the knife may be avoided by an injection of this substance, followed by aspiration of the pus, and again by another injection; it is a powerful therapeutic agent in local tuberculosis, though not in those surgical forms which tend to generalisation. It forms a really antiseptic varnish when applied to wounds analogous to traumaticin.—*British Medical Journal*, April 18, 1896.

Methylene Blue in Malaria.

Rottger, of Kiel (*Deut. med. Woch.*, April 9th, 1896) has within a short time treated 7 cases with methylene blue in doses of 0.1 g. in capsules, given six to eight times in the day. The rapid cessation of the attack was striking; in one case this occurred at once, but in the other cases only after a modified attack. Microscopic examination

showed that the plasmodia disappeared from the blood later than the febrile attacks. A noteworthy change in the plasmodia was not observed. The duration of the treatment extended over 8 days as a minimum, and 33 days as a maximum. It was determined by the disappearance of the plasmodia and of the splenic enlargement. The latter occurred in most cases. There was a relapse in only one case. The author saw no unpleasant effect upon the gastro-intestinal tract. Occasionally there was slight nausea at the beginning, but this was never marked. No irritation symptoms referable to the genito-urinary system were noted; yet methylene blue administered during long periods appears to affect the patient's general health. The changes in the urine and feces are worthy of attention. The former is always green to dark blue according to the amount of the drug taken; the feces are green, and only coloured over the surface. A short time after evacuation they presented green points which became confluent later. The author concludes that methylene blue is an effective remedy in malaria, and perhaps the next most effective to quinine.—*Brit. Med. Jour.*, May 9th.

The Functions of Hair.

A correspondent of the *Lancet* (4th April) draws attention to an interesting paper on the Function of Hair read by Professor Exner at a meeting of the Vienna Medical Society, in which some of its functions have been thus noticed. "There is a group, such as the eyelashes and eyebrows, for instance, which are sensorial organs, possessing tactile functions, and moreover serve as a protection to the eyes. In places where two integumentary surfaces are in contact such as in the axillary region and in the fold between the scrotum, or the labia majora, and the leg, they act as rollers and facilitate the gliding of the integumentary surfaces on each other. A third function of the hairs consists in the equalization of surface temperature. The hair of the scalp protects the head against external cold, and also prevents the loss of heat through the very low thermal conductivity of the hair cylinders and of the cushion of air intermingled with them." We may add that the beard often serves as a protection against cold, and is useful to those who are liable to tonsillitis and other diseases of the throat. It has been useful also to sufferers from chronic bronchitic asthma.

Metabolism.

At the meeting of the Berlin Physiological Society held on the 6th of March last:—

Prof. Zuntz spoke on the results of his investigations on metabolism, which had shown that the performance of 1 kgm. of work requires the consumption of 28 kgm. of chemically equivalent energy, whether it be derived from proteids, from fats, or from carbohydrates. Chauveau had recently come to the conclusion, based on experiments, that sugar alone is used up in a muscle doing work, and that when the animal is fed with fat the latter is preliminarily changed into sugar by the liver. The speaker showed that this assumption involves the

occurrence of a very complicated chemical process, during which a large part of the energy of the food must be set free in the liver and remain unused. Chauveau had also stated that the same amount of energy is used up in positive as in negative work, and against this view the speaker advanced the results stated above for positive work, while, on the other hand, during the negative work of descending an incline with the lesser declivity, less chemical energy is consumed, thus corresponding to the lessened work. As the declivity becomes gradually greater, the amount of chemical energy increases, at a certain stage is equal to the work done, and then increases rapidly beyond the ratio given above for positive work.—*Nature*, April 16, 1896.

Deficient Development of the Lower End of the Tibia after Transverse Fracture.

At an ordinary meeting of the clinical society of London held on the 24th of April last, Mr. Gordon Brodie showed a case of Deficient Development of the Lower End of the Tibia after Transverse Fracture. The patient was a man twenty-two years of age who was admitted into the Middlesex Hospital twelve years ago for a transverse fracture of the tibia caused by the overturning of a hand-cart, which snapped the bone above the ankle and caused a good deal of bruising about the joint. The patient was unable to recollect the precise spot where the fracture occurred, but placed it well above the epiphysial line. Examination showed that the end of the tibia was dwarfed in its growth, with an inward curve of the lower fourth of the bone, bringing the internal malleolus into strong relief and causing the tibio-fibular mortise to be inclined inwards slightly, thus giving the foot a list inwards. No irregularity could be detected along the anterior border of the tibia. There was considerable hypertrophy of the lower end of the fibula, and its subcutaneous surface was marked by ridges, and projecting from the anterior border of the malleolus was a large boss of bone which made the breadth one inch greater on this side than on the other. In order to compensate for the position the foot was thrown into by the inclination of the mortise there was well-marked valgus, the tubercle of the scaphoid coming out strongly when the patient pressed his foot on the ground. Roentgen's rays revealed that there was absolute continuity of the bone.—*The Lancet*, May 2.

Death caused by Bromide of Potassium.

We learn from the *Lancet* (4th April) that a man suffering from neuralgia had been in the habit of taking bromide of potassium in doses of from two to three drachms. The drug did not apparently produce any of the usual symptoms of bromism, but may have caused the palpitation of the heart of which the deceased had frequently complained. During the night of the 23rd March last, he felt very cold, gave two deep gasps, and almost immediately expired. The medical practitioner who was sent for stated at the inquest held on the 26th idem by the coroner for mid-~~Essex~~ Essex that he found the deceased quite dead, his mouth wide open, the eyes half closed, and the pupils somewhat dilated. A

bottle containing the salt was on the table, and was found on examination to be pure bromide of potassium. The death was attributed to the failure of the heart's action caused by taking the drug. Our contemporary warns his readers against the repeated administration of this medicine in massive doses, and adds in conclusion, that "many secret remedies for 'fits' contain this drug in large quantities, and it is evidently desirable that the public should be warned that their use is not unattended with danger." This case shows as clearly as possible the danger of taking any drug however harmless it might be said to be by allopaths, in large and repeated doses.

The Preventive Inoculation of Dogs.

The researches undertaken by Mr. Pourtalé in collaboration with Professor Jolyet regarding the preventive inoculation of dogs against hydrophobia do not appear to have excited much attention, although the subject is unquestionably one of considerable importance. It is certainly better to prevent an evil than to cure one, and if dogs can be rendered refractory to hydrophobia in the manner advocated by these investigators it would seem as though we were arriving within measurable distance of the annihilation of one of the most terrible of all diseases. The conclusions which Mr. Pourtalé came to were laid by him before the International Congress for the Advancement of Science in August last, and also before the Sixth International Veterinary Congress, held at Berne in the following month; but according to a communication which Mr. Pourtalé recently made to the Société d'Hygiène at Bordeaux the reception he met with was far from encouraging. The president of the section at Budapest, Professor Hutérat, while cordially recognising the academic merit of the work, was, nevertheless, of opinion that it was not necessary to take any further action with regard to it, and at Berne "the systematic opposition which has for years pursued all endeavours to establish the prophylaxis of hydrophobia" is likewise said to have been in the ascendant with the majority of the members of the congress. That M. Pourtalé was not entirely destitute of supporters is, however, clear from the following resolution, which was proposed as an amendment: "The Sixth International Congress of Veterinary Medicine, taking into consideration the major importance of the author's conclusions as to the immunising and curative inoculation of dogs against hydrophobia, expresses the hope that all persons engaged in experimental science will interest themselves in the verification and control of the tests upon which these conclusions are founded, with a view to the introduction into the various European states of preventive canine vaccination after the method indicated."—*The Lancet*, April 25th.

Central Changes in Peripheral Neuritis.

In a recent number of the *Archives of Neurologie* Dr. Soukhanoff has an article on this subject, with special reference to a case of which he furnishes particulars. Until a short time ago peripheral neuritis was supposed to be a disease in which the lesion was confined to the peripheral nerves, but Kahlor and Pick, Korsakow, Eichhorst, Camp-

bell, and others have shown that changes also take place in the spinal cord, especially in the columns of Goll, although changes in the ganglion cells have also been described. Dr. Soukhanoff's case was that of a patient twenty-one years of age with a family history in which there were traces of a neurotic taint. He was of an amiable but somewhat weak character, often showed considerable energy, but never for very long at a time, was easily tired, and very impressionable. He developed a tendency to indulgence in alcohol, not a craving, but in his case sufficiently strong to lead to considerable over-indulgence. In 1892 he had an attack of delirium tremens and another in 1894. In the latter he threw himself out of a second storey window. A few months before his admission to hospital he was noticed to walk feebly and he was much troubled with stomach derangement. He gradually became worse, and on his admission there were slight weakness of the right side of the face, nystagmus, feebleness of both arms but more of the right than of the left, the hands being weaker than the other parts of the limbs, and there was also weakness in both legs, but affecting the smaller muscles most. The kneejerks were not obtained and there was tenderness on pressure. The memory was bad and there was considerable psychical change. Tubercle bacilli were present in his sputum and he gradually became more and more feeble, the immediate cause of death being the pulmonary condition. At the necropsy empyema and advanced phthisical processes were found in the lungs and parenchymatous neuritis in the peripheral nerves. But changes were also found in the cord, the columns of Goll in particular being degenerated throughout almost the whole extent of the cord.—*The Lancet*, April 18, 1896.

School Hygiene.

The *British Medical Journal* (21st March) draws attention to the tenth lecture in the National Health Society's course on public health which was lately delivered by Dr. Charles Shelly. The subject dealt with was School Hygiene. We quote the following paragraph from our contemporary giving a brief resume of the lecture, which is interesting not only to the British public, but also to such persons in this country as have to rear up children in public institutions. Dr. Shelly observed "that the healthy scholar was not an overworked one; and that signs of overpressure indicated some defect in the scheme of nourishment, mental or bodily. He insisted that no morning work should be exacted on an empty stomach, and urged that the hardest work should be undertaken in the latest part of the day, although no hard or very interesting work should be done just before bed time." As to sleeping accommodation he expressed a preference with slight modification of the open dormitory system which afforded sufficient privacy for dressing without a minimum interference with ventilation. With regard to clothes, he condemned the use of cotton, whether for bed clothes or for ordinary garments, and said it was essential to the growing boy or girl that there should be looseness of clothing across the chest. He was also of opinion that lessons in elementary hygiene, personal and domestic, should be made a recognised part of school education,

that separate accommodation should be provided for infectious and noninfectious diseases, and that a uniform system of health certificates, such as those compiled by the Medical Officers of Schools Association for the Head Masters' Association, should be introduced. As the subject is of very great importance to India where the laws of sanitation are oftener honored in the breach than the observance, we hope it will attract the attention of the Professor of Hygiene in the Medical College, and that he will suggest suitable measures for the protection of school boys from the evils of insanitation most common in this country.

Poisoning by the External Use of the Subnitrate of Bismuth.

Dr. Gaucher, of Paris, recently reported before the Society of the Hospitals of Paris four cases where toxic symptoms had been observed after the use of the subnitrate of bismuth externally. In the first three cases the patients were suffering from crural ulcers, and the fourth, a woman, had been burned on various parts of her body. These patients had been treated each day with the subnitrate locally as a dressing. The first symptom of poisoning was a line along the edge of the gums similar to that of lead poisoning but still more slate-colored. This was accompanied by patches, as if tattooed, on the cheeks, and, finally, an actual stomatitis, followed by secondary infection, appeared. Discontinuance of the use of the drug caused the symptoms immediately to disappear. The subnitrate was found by analysis to be free from all impurities, such as lead or arsenic. In the succeeding discussion Prof. Hayem stated that he had used large doses of the drug by the mouth, and has never observed any disagreeable after effects. Probably the gastric juice modifies it—*La Semaine Médicale*, No. 60. [Prof. Kobert, *Lehrbuch der Intoxikationen*, Stuttgart, 1893, p. 412, claims that both the internal as well as the external use of this drug will give rise to poisoning. He cites a number of writers, among whom are several surgeons, who have observed toxic symptoms after its use as a surgical dressing. Taken internally, the greater portion passes off unabsorbed, on account of its insolubility, or it is transformed, in the intestine, into the sulphate of bismuth. The remedy appears to be chiefly, though not wholly excreted by the large intestine which is colored a deep black and filled with numerous necrotic patches. He also mentions a form of stomatitis which resembles that of mercury, with swelling of the gums, tongue, loosening of the teeth, a black line along the edge of the gums and ulceration of the mucous membrane of the mouth. Intestinal catarrh and nephritis have also been noticed.—Eds.]—*The Hahnemannian Monthly*, April.

Bacteria in Milk.

At a meeting of the Edinburgh Royal Society on Monday, April 6th, a communication on bacteria in milk as supplied to the city of Edinburgh, and the relative efficiency of different methods for their removal or destruction, was made by Drs. Hunter Stewart and J. Buchanan Young. The authors stated that the cowhouses of this country were not kept with anything like

the care of those in Denmark and Holland. The cows were not groomed, the cowhouses were not flushed with water, the hands and clothing of the milkers were not properly attended to, nor were the cows' teats properly cleaned. Since November 1894, 300 samples of milk had been examined from fifty dairies scattered throughout the city. It was found that at three hours after milking there were in winter on an average 24,000 bacteria per cubic centimetre. In spring and early summer 44,000; in late summer and autumn 173,000. It was found that in dairies supplied with milk from the country the average number of micro-organisms five hours after milking was 41,000 per cubic centimetre, while in dairies supplied with milk from town byres the average was 352,000 per cubic centimetre. The importance of having cowhouses outside the city was strongly emphasised. The various modes of sterilising milk were discussed, and it was pointed out that the great objection to the use of sterilised milk was the change of flavour and the alleged increased indigestibility. The conclusions were that milk kept for one hour at 212° in bottles hermetically sealed remained sterile for more than a month, and was quite sweet and palatable, though it had a boiled taste; that milk heated by means of Dr. Cathcart's apparatus remained quite sterile for forty-eight hours, though the boiled taste was marked; that milk kept for thirty minutes at 158° F. was quite sterile at the end of twenty-four hours, and contained very few microbes at the end of forty-eight hours. In all these three methods the micro-organisms of tubercle and diphtheria were certainly killed. Scalding at 176° F. with every precaution kept the milk sterile for twenty-four hours, but in carrying out this process on a large scale there was considerable risk of postscalding contamination, so that there was no guarantee that the bacillus of tubercle and diphtheria, if present, was destroyed.—*British Medical Journal*, April 18, 1896.

Congenital Absence of Ovaries with Rudimentary Uterus.

We are indebted to the *British Medical Journal* (25th April) for the following interesting case reported by Dr. J. Ramage:—

"Mrs. B., aged 29, and married for eight months, consulted me about the absence of menstruation. She has never menstruated, but when about 13 years of age she had a violent "stomachache," and her elder sister, thinking the pain premonitory to menstruation, gave her a heroic dose of penny royal, but without the desired effect. Since then she has never had any of the symptoms usually present at or about the menstrual period. She has no desire for sexual intercourse, and little, if any, feeling of pleasure during its performance.

The breasts are moderately well developed, and though slim, her figure is fairly well proportioned. Her general health is good. She has never suffered from typhoid or other fever, or from any acute disease, with the exception of a slight attack of influenza about four years ago, and she has never had an accident of any kind. Her father died, aged 50, of a chest affection which lasted for twelve months, and resulted from the bursting of a blood vessel while lifting a heavy piano case. Her mother is alive and healthy, and has had seventeen children, the last two being twins. The survivors are all

healthy. The eldest sister is married and has had one child, and expects another shortly; her menstruation since puberty has been normal. The two younger sisters, aged 15 and 13 respectively, have neither as yet menstruated.

I found the external genitals natural as regards size and consistence. The vagina, cervix, etc., to digital examination, and, as viewed with the speculum, were apparently normal; but bimanual palpation failed to map out the uterus. I introduced a uterine sound through the cervix for $1\frac{1}{2}$ inch, but it would go no further, the direction it followed being that usually assumed in cases of anteverted uterus. Thinking the obstruction might be due to an acute antelexion which I had been unable to distinguish by manual examination, I introduced a No. 6 gum-elastic bougie after heating and oiling it, in the hope that it might pass any obstruction from this cause, but it also only passed for $1\frac{1}{2}$ inch. Examination *per vaginam* showed no trace of ovary on either side, and a careful examination *per rectum* yielded the same negative result.

I expressed to the patient my opinion that she had no ovaries, and only a rudimentary womb; that she would never menstruate, and that she could not possibly conceive."

This opinion has been confirmed by Dr. R. T. Smith, who had doubts however as to whether the ovaries were entirely absent.

Dr. Ramage is of opinion that in every case in which menstruation is unduly delayed, a most careful examination should be made, and that no medicine should be prescribed before examination. This wholesome advice may, in many cases, prevent "the disappointment and dissatisfaction of both doctor and patient," and save patients from divers drug-produced diseases.

The Circulation of Organic Matter.

The following abstract of a discourse on the above subject delivered by Dr. G. V. Poore at the evening meeting of the Royal Institution held on the 24th April last, reproduced from the *British Medical Journal* of the 2nd Instant, will be read with interest:—

Without attempting to define "organic matter," Dr. Poore began by saying that all organic matter was combustible, and that all our common combustibles were of organic origin. A comparison was made between combustion in a furnace and the combustion of food in the body of an animal, and it was shown that whereas in the furnace the fuel was used up and the furnace worn out, in the animal there was increase of size, while its droppings stimulated the soil to an increased production of food. This apparent increase was probably due to the holding in suspension, by the extra growth of plants, of both water and soluble salts, which otherwise would percolate the soil and find their way to the sea. Recent experiments made it certain, also, that some of the atmospheric nitrogen was appropriated by microbes in the soil. The animal was a true regenerative furnace, and led to the increase of the herbage at the expense of the sea on the one hand, and the atmosphere on the other. It was impossible to imagine an increase in one direction without some compensating decrease in another direction. When organic matter collected under water, fer-

mentations were set up, and the organic matter was reduced instead of being oxidised. The tendency of organic matter, when thus treated, to form combustible bodies was very remarkable. The inflammable gases which sometimes formed in cesspools, and the marsh gas evolved by mud in ponds and rivers, were familiar examples, as were also the alcohols formed by the fermentation of carbohydrates. Our immense stores of coal and peat were due to the silting up of marsh plants in past ages and in recent times, and so-called mineral oils were certainly of organic origin, as were also the nitrates which were so much used in the manufacture of explosives. If we were to judge of what has been by what is, it was impossible not to come to the conclusion that life must have preceded combustion in this world. This biological theory of the cosmogony made the world subject, like all other things, to the processes of development, evolution, and decay, and he believed that such a theory had fewer drawbacks than might at first sight appear.

Organic matter was our capital in this world, and the more frequently we could make it circulate the greater would be our increase of material wealth. If we burnt it or threw it into the sea we thereby spent money for dissipating our capital, but if we placed it on the land we increased our capital and earned frequent dividends. The rôle of microbes in the soil in bringing about the humification and nitrification of organic matter was next dealt with. It was shown that farming without frequent additions of organic matter to the soil must end in ultimate failure. We found everywhere that vegetable organisms co-operated with animals in the destruction and circulation of organic matter, and it appeared to be probable that the correlation of the biological forces was not less rigid than the correlation of the physical forces. Allusion was made to the observations of M. Megnin on the destruction of animal bodies by successive squadrons of insects and microbes, and many facts were brought forward to show that the comparatively new doctrine of symbiosis was probably of universal application. The intestines of every animal swarmed with microbes, which were essential for digestion during life, and at death were active in starting the dead body upon the cycle of events which led to its ultimate circulation and reappearance in plant form. There were no fewer than 628 species of fungi which flourished in excrement, and of these no fewer than 402 were peculiar to certain animals. There could be no doubt that the excrement often contained the organisms which led to its dissolution and circulation. The proper course to pursue with organic matter was to place it near to the surface of well-tilled ground, and such a course seemed to be both profitable and safe. By mixing it with water we had all the evils of putrefaction, while our capital was thrown into the sea and our water supplies were poisoned by leakage. Our methods of sanitation inevitably lead to overcrowding, and farmers were often taxed to provide expensive apparatus, which merely deprived them of organic matter which otherwise might fertilise the land instead of involving them in a ruinous expense.—*British Medical Journal*, May 2, 1896.

CLINICAL RECORD.

A Case of Severe Diarrhœa cured by Conium.

BY DR. MAHENDRA LAL SIRCAR, M.D.

Ram Dayal, my personal servant, aged 21, was attacked with diarrhœa from 10 P.M. of the 18th Inst. (May 1896). He had passed several stools by 4 o'clock in the morning, when his illness came to my notice from the groans he was uttering on account of the severe abdominal pains he was suffering from. On inquiring into the cause he told me that he has begun to have stools since 10 o'clock in the evening. The stools have gradually become more and more watery and profuse and almost involuntary up to 5 A.M. He has had about eight stools, during the last three of which he had passed no urine. While being removed to another house he passed two copious, watery stools in the course of half an hour. There was no urine with these stools. There was no vomiting, no cramps of the extremities; but the gripings and pinchings in the intestines were very severe. The pulse was exceedingly weak, just perceptible at the wrist, countenance sunken, voice very feeble but not hoarse, skin cold not clammy.

Having, in the recent epidemic of cholera in Calcutta, and also in this place, Baidyanath Junction, where I have come for a change, found *Sulphur* given in the beginning to act most beneficially in cases where the stools commence about midnight and are felt *hot* by the patient, I was going to administer this medicine to the patient almost as a matter of routine. But I was immediately reminded of the unscientific character of my procedure, and I therefore asked the patient if the stools that he was passing were felt by him to be hot. "No," he at once replied, and after a little reflexion, said, "on the contrary they are *cold*." This made me desist from giving the *Sulphur* that I had in my hand. I had no recollection of any drug that has produced stools which are felt *cold* by the patient. I began to consult my repertories, and chiefly the Cypher Repertory. My search was fruitless as regards the particular symptom which was the object of that search. But I stumbled upon one symptom which helped me. This was *cold flatulence* produced by *Conium*. Of course there was a vast difference between cold *flatulence* and cold *stool*. But still the former indicated the temperature of the parts through which the wind passed, and thinking that cold stool might indicate a similar condition I gave a few globules of *Conium* 6x to my patient.

I had to go out for a couple of hours, and, on my return, was glad to learn the medicine has taken most marvellous effect. There was only one stool after its administration, much less in quantity, and there was urine with it. He looked better, and the pulse had also improved. He passed three or four stools only in the course of the day, each less in quantity than the preceding, and more and more consistent, and with each urine was passed. He made a most satisfactory recovery, without any more medicine.

Remarks.

There was for some time an epidemic of cholera prevailing in the

village where we were, and also in the neighbouring villages. How this case would have terminated if not promptly treated, or properly treated, it is more than one can say. The probability is, that if treated with the routine *Camphor*, *Veratrum*, &c., the disease would have assumed the characters of genuine cholera, and might have ended fatally, at least not so satisfactorily as it did. My persuasion is, that when not strictly appropriate, homœopathic medicines do produce pathogenetic effects and produce the very morbid conditions for which they are truly homœopathic, but which not really existing are brought about by them in patients whose constitutions have been rendered sensitive by disease. In the treatment of all diseases, and of cholera in particular, routine practice is most disastrous. I look upon the recent unfavorable results of the homœopathic treatment of cholera in Calcutta and elsewhere, as due to this cause. Every case requires the strictest individualization, or bungling and failure must be the result. Every epidemic, if scrutinizingly studied, would be found to differ in some essential characters from previous epidemics. This is the reason why in one epidemic *Camphor*, in another *Arsenic*, in a third *Veratrum*, in a fourth *Sulphur*, &c., is found to succeed, and no other. It is absolutely necessary that the character of an epidemic, the genius epidemicus, as it is called, should be studied with care, in order that the work of prescribing may be both accurate and comparatively light. Of course it must be remembered, that this should not dispense with the study of each individual case in order to determine its own peculiarities, but the genius epidemicus having been ascertained, such study would be easier than it could otherwise be.

A case of Acute Ovaritis and Metritis with Peritonitis.

By DR. BEPIN BEHARI MAITRA, M.B.

A Hindu Female, aged 26 years, after the birth of her last child, three years ago, had suffered from irregular courses. She had also a chronic ovaritis of the left side all these three years; in walking she could not stand straight up and used to feel a dull pain in the left groin. Without seeing her, and depending upon the report of her father, I prescribed *Apis*. 30 twice a day, about eight months ago. This she took regularly for a month and was cured of her then ovarian complaint.

Dec. 1st 1892. Since the last three weeks, she has been suffering from pain in the groins. Has had remittent fever since the last 12 days accompanied with severe pain all over the abdomen. I saw her this day afternoon, when the fever having abated a little, the attending physician had given her a dose of twelve grains of Quinine.

Present Symptoms :—Pulse 130, weak and very rapid; skin cool; countenance anxious; too weak to speak. Severe pain over the whole abdomen, especially the ovaries and uterus,—cannot bear to be touched. Stitching, stabbing, darting and various other sorts of indescribable pains in the ovaries every now and then; pains are insufferable; cannot stretch her legs at all; cannot move from side to side; thirst;

sleeplessness. Menses have set in since the last 4 days. Discharge scanty and blackish. The attending physician had previously given her, *Belladonna*, *Aconite* and *Bryonia*, all to no effect.

Lachesis 200 every hour ; should the pains become worse it is to be given every $\frac{1}{4}$ hour ; if the pains are less, it is to be given at longer intervals.

2nd. Dec. This morning I heard that the patient was slightly better. The pains aggravated occasionally when the administration of the medicine every $\frac{1}{4}$ hour seemed to lessen them. She had snatches of sleep now and then.

4th Dec. I saw her again this afternoon. The medicine was being continued all along at long intervals ; the stitching, darting and other sorts of pains have all disappeared.

Since three days, she has been suffering from daily attacks of fever. Fever comes daily at 11 A.M., lasting till midnight : Minimum temp. 102° . Pulse stronger ; can speak now and feels herself better. Extreme tenderness all over the abdomen, especially the ovarian and uterine regions. She feels the pain in these places, most severely when drawing a deep breath, or coughing ; can turn on her sides a little. *Merc. cor.* 6, every 3 hours.

6th Dec. To-day's report is that she is much better ; no fever ; pains have been still further greatly reduced ; appetite improved. *Merc. cor.* 6, every 6 hours.

9th. Has hardly any pain at all : On deep pressure she feels slight pain in the ovaries.

25th. Has been steadily improving all these days under *Merc. Cor.* A few days ago, she had pleurodynic pain, which was cured by a few doses of *Ranunculus Bulb.* 6.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

131. KALI BROMIDUM.

Constipation :

1. Bowels sluggish in their action, but not very confined.
2. Fæces diminished in weight and usually procrastinated.
3. Dryness of excreta follows its continued use, and sts. become dry, hard and infrequent.

Diarrhœa :

1. Sts. softer and more frequent.
2. Diarrhœa ; on using clothes they were found stained of a violent color.
3. Purgation, with abdominal pain of a dull aching character.
4. Hypereatharsis, repeated again and again each time the medicine was taken.

Before St :

1. Flatulent colic in region of duodenum.

During St :

1. Pain in abd. of dull, aching character.

After St :

1. Relief of colic.

Rectum and Anus : Tenesmus.

General Symptoms :

1. Delirium. Decidedly insane ; delusions that lowd women had got into his mother's house ; that he was pursued by the police ; that his life was threatened by members of his family ; that he had thousands of dollars in gold sewed up in his clothing, &c ; manner excited and rambling, his hands constantly busy, fumbling in his pockets, tying his shoes, &c.
2. Intense melancholy and weakness, with fits of uncontrollable weeping.
3. Enfeeblement of mental power. Loss of memory to such an extent that he forgot to talk. Well-marked amnesic aphasia. Single words forgotten, or single syllables constantly dropped from words.
4. Vertigo, fainting, and nausea. Inability to stand erect on account of dizziness. Headache, with heaviness, and pressure on forehead and temple.
5. Drooping of eyelids. Pupils dilated and uncontractile, or strongly contracted. Momentary weakness of sight and hearing. Smell weakened.
6. Languid expression. Wearied, anxious look. Idiotic expression. Face pale or yellowish.
7. Gums painful, sometimes red and swollen. Tongue red, dry, enlarged, coated. Foul breath and a white tongue. Difficult speech. Long-lasting dryness of mouth. Increased secretion of saliva, with frequent spitting. Ropy, sticky mucus on tongue, lips, and inside of mouth.
8. Anæsthetic effect on mucous membrane of fauces and upper respiratory organs, by which their reflex action becomes

diminished. Difficult deglutition.

9. Loss of appetite. Much thirst all day, but able to drink only a mouthful, as cool water is unpleasant, though there is a craving for cold drinks.
10. Nausea and pain in stomach most frequent when lying on left side. Repeated retching and emesis, with vomiting of frothy mucus. Distressing oppression of stomach after dinner.
11. Violent periodical pains in umbilical region, which is very sensitive to touch, without being distended. Rumbling of abdomen, with frequent emission of flatulence. Flatulent colic in region of duodenum, early morning, passing off after a diarrhœic stool.
12. Feeling of vesical distension and irresistible desire to urinate. Frequent emission of thin yellowish urine. Discharge of urine both frequent and more copious. Increase of phosphates and uric acid in the urine.
13. Diminishes and ultimately paralyses the sexual appetite and power. Erections become rare and imperfect and then cease altogether.
14. Painful, exceedingly disagreeable hoarseness. Aphonia. Paroxysmal dry cough, with difficult respiration, followed by vomiting of mucus or food, worse at night or when lying down.
15. Heart's action feeble and intermitting, Pulse weak and slow, or irritable and rapid.
16. Pain in the loins; in the region of the kidneys.
17. Constant twitching of the fingers. Handwriting shaky and indistinct. Hands tremble as in delirium tremens.
18. Great unsteadiness of gait. Unusual weakness at the knees.
19. Drowsiness, somnolence, and constant dropping off to sleep. Confused, or voluptuous dreams, with severe erections.
20. Very emaciated and weak, and of a peculiar pallid color.
21. Acne, especially on face, scalp, and back. "Pustules sometimes become boils, and end in large ulcers with conical scabs like rupia." (*Hughes.*)

Remarks : KALI BROMIDUM has produced both constipation and diarrhœa. But the stools are not characteristic enough to guide to the selection of the drug in either of the above affections. The general symptoms alone can determine the choice. We quote the following remarks from Dr. Hale's *New Remedies*, Vol. ii, as worthy of study :

"Several years ago one Dr. Caro, of New York, made a report on cholera infantum, in which he claimed to have cured one hundred and fifty-seven out of one hundred and sixty cases by the administration of Bromide of Potassium, in doses varying from one-fiftieth to two grains every hour.

This report created quite a sensation, and allopathic physicians all over the United States tested its value in that disease. Many homœopaths, attracted by the "glittering generalities" of Caro, gave it a trial, but the results failed to verify Caro's experience, and the medicine fell into disuse.

Such is too often the case with new remedies in allopathic hands. How shall we explain this discrepancy? Bromide of potassium does not cause this disease by its primary action, and its secondary action has not been sufficiently studied to show that cholera infantum belongs to the secondary effects. I believe, however, that it *would* appear if children were the subjects experimented upon.

What is cholera infantum? A disease of the bowels? I believe that true cholera infantum, that kind which comes on suddenly, attended by *great prostration, cold hands and feet, hot head, dilated pupils, rolling of the eyes and head, starts, jactitation, spasms, watery, very offensive stools, vomiting of all drinks, and intense thirst*, is nearly always a disease of *cerebral origin*, or an overexcitement of the nervous and vascular systems. Probably Caro's cases were all of that character, or nearly all. Certain it is, that when I meet with cases such as above described, I find one of the Bromides to be almost specific in removing those symptoms. I do not rely on it in all cases alone, but alternate Camphor, Veratrum alb., Carbolic acid, or Solanum, as the case seems to indicate. But in the majority of cases I rely on the Bromide alone.

Asiatic cholera has been successfully treated by twenty-grain doses of Bromide every hour. Dr. Begbie says: "In the first stage it arrests the vomiting, the cramps and the rice-water discharges, restores the secretion of urine; the warmth and color returns to the previously cold and livid skin." He suspends its use when reaction sets in. I have never had opportunity to treat cholera with this remedy but from my happy experience in certain cases of cholera infantum I should prescribe it with every hope of success."

"Constipation of years' standing has often been cured unexpectedly while giving this remedy continuously for other disorders. I cannot pretend to give a *rationale* of its curative action in such cases; but the fact is worth noting.

Some anomalous disorders of the rectum have been benefited by the Bromides. Dr. Helmuth cured "polypoid tumors." I have relieved spasms of the sphincter ani.

Dr. Caro records a cure of a child three days' old who had retention of the meconium. The infant vomited all food; no action of the bowels. One half grain of the 1x trituration every hour rapidly removed these conditions."

Gleanings from Contemporary Literature.

AN ADDRESS ON IMMUNISATION AGAINST SERPENTS' VENOM, AND THE TREATMENT OF SNAKE-BITE WITH ANTIVENENE.

*Delivered at the Royal Institution of Great Britain on Friday,
March 20th, 1896.*

By PROFESSOR FRASER, M.D., LL.D., F.R.S.,
University of Edinburgh.

WHILE medical science and practice have hitherto failed to discover any certain means for protecting man against the effects of serpents' bites, or for preventing death from serpents' venom, it is strongly suggested by traditions as well as by the narratives of travellers that some success in attaining these objects may actually have been obtained by the members of uncivilised tribes and sects. Many of these traditions and narratives are of great significance, and in connection with facts derived from experiment, which will to-night be described, they possess a deep interest. We learn from them that from a remote period the belief has existed that a power may be acquired by man of freely handling venomous serpents, and even of successfully resisting the poisonous effects of their bites. In more modern times and, indeed, at the present day, the same belief is stated in the writings of many travellers, and passages confirmatory of this statement are found in the published works of William Bosman, the Rev. John Campbell, Drummond Hay, Honigberger, Nicholson, and Richardson. With this belief may be associated the further belief that venomous serpents are themselves protected against the effects of bites inflicted upon them by individuals both of their own and other species.

This and other evidence pointing to the existence of protection against venom not only in serpents themselves, but also, in certain exceptional circumstances, in human beings, several years ago originated the wish to investigate the matter. It was obviously suggested that if protection occurs it must be caused by some direct result of the absorption of venom, and, therefore, that its existence could be proved or disproved by experiment. In the former event, the first steps would already have been taken to obtain, by further experiments, results likely to be of value in the treatment of poisoning by serpents' venom, and, indeed, likely to be of importance in even the wider field of general therapeutics.

The general plan to be followed in the investigation was obviously suggested by some of the statements that have been referred to, for they indicate that individuals may become accustomed to, or protected against, the effects of serpents' bites by the introduction into their own bodies of a succession of doses of venom, no one of which, necessarily, at the beginning of the process was so large as the minimum lethal. A consideration also of the facts proving the possession of protection on the part of venomous serpents themselves indicated the same plan of procedure, for, equally obviously, these serpents from an early period of their existence must absorb venom from their own gradually developing poison glands, until, in the course of time, they had acquired sufficient protection to remain unaffected by the larger quantities which the now fully developed glands would introduce into their bodies.

My first supplies of cobra venom were obtained in 1869, from the late Dr. Shortt, of Madras, and, in 1879, from Surgeon-Colonel Moir, of Meerut.

They were in very small quantity, but with them I was able to satisfy myself that, by a succession of minute doses, animals became able to receive the minimum lethal dose without any distinct injury. At this point, however, the supply of venom failed, and the observations could not then be carried further. It became evident until large quantities of venom had been obtained definite results could not be hoped for.

It was not until several years afterwards that a sufficient supply had been gradually accumulated, by further small quantities received from Sir Joseph Fayrer, the Thakore of Gondal, and Dr. Phillips; and by larger quantities from Sir William Mackinnon, Director-General of the Army Medical Department, and, especially, from Surgeon-Colonel Cunningham of Calcutta, who for many years has been engaged with much success in the study of venoms and their antidotes. Within the last few months, and subsequent to the publication of some of the experimental results which had by this time been obtained, the India Office has also placed at my disposal a considerable quantity of venom, which had been collected by Dr. Hankin, of Agra, at the request of Dr. Cleghorn, Surgeon-General with the Government of India.

But besides these specimens of the venom of the cobra of India, I have obtained specimens of the venoms of several serpents of America, Australia and Africa, with which, also, experiments have been made.

In the meantime, however, the results of experiments on the inoculation of the toxins of disease, as well as of proteid toxins of vegetable origin, had suggested to several observers that serpents' venom, because of its chemical analogies with several of these substances, might possibly be found capable, like them, of producing immunity against the effects of poisonous doses; and further evidence was thus obtained in favour of the reality of the protection to which I have referred.

Sewall, in 1886, undertook an investigation with the object of determining if immunity against the fatal effects of rattlesnake venom could be produced by the inoculation of repeated doses, each too small to produce ill effects. The experiments were made on pigeons, and he succeeded in proving that immunity can be secured to the extent, at least, of protection against seven times the minimum lethal dose.

Kanthack made a similar series of experiments in 1891, which led him to conclude that rabbits may be accustomed to resist lethal doses of cobra venom.

Working with the venom of vipers, Kauffmann in 1891, and Phisalix and Bertrand in 1893, obtained experimental evidence of the possibility of producing a definite, though not high degree, of resistance against the toxic effects of this venom.

In the following year Calmette, continuing some earlier observations which had led him to express the opinion that protection against snake venom could not be produced, published evidence confirming the results of previous investigators, but also showing that a higher degree of protection could be secured than they had obtained; for he succeeded in administering to each of several rabbits, within a period of eight months, a total quantity of from 30 to 35 milligrammes of cobra venom.

In 1894 also, both Phisalix and Bertrand and Calmette obtained evidence of the power of the blood serum of protected animals to counteract the effects of venom. Calmette, at the same time, claimed that hypochlorite and chloride of calcium were antidotes of considerable value; and in a later publication, he showed that the blood serum of animals immunised by the administration of venom, possesses a certain degree of antidotal efficacy against the toxins of several diseases.

[Proceeding to describe his own investigation, the Lecturer stated that

his experiments had been chiefly made with the venom of the cobra, although the more important of them had been repeated with the venoms of the crotalus of America, the sepedon hæmachates of Africa, and a large serpent of undetermined species from the Diamantina district of Queensland.]

The minimum lethal dose for several species of animals was first defined, and then protection was produced by the administration of a series of gradually-increasing doses—until, for instance, with cobra venom, rabbits became so far protected as to be able to receive in a single dose a quantity sufficient to kill fifty animals, and, in the course of five or six months, a total quantity sufficient to kill 370 animals of the same species and weight.

[A description having previously been published of the antidotal properties of the blood serum of protected rabbits, the Lecturer mainly described experiments since made with the blood serum of a horse, which had last received a dose of cobra venom estimated to represent twenty times the minimum lethal. This blood serum, like that of rabbits and of other animals, is fluorescent, and when dried it yielded about 10 per cent. of a solid residue, which retains unchanged its antidotal properties for an indefinite period of time, and can readily be restored to its original liquid state by dissolving it in water. To it, whether in the dry or liquid form, the name “antivenene” has been given—a name which, notwithstanding etymological objections, has the great advantages of brevity and freedom from ambiguity.]

The experiments were so planned as to obtain in several conditions of administration as exact a definition as possible of the antidotal power of the antivenene. In one series of experiments cobra venom was mixed outside of the body with this antivenene, and within a few minutes thereafter the mixture was injected under the skin of the animal; in a second series the venom and antivenene were separately and nearly simultaneously injected into opposite sides of the body; in a third series antivenene was injected thirty minutes before the venom; and in a fourth series the venom was first injected, and thirty minutes afterwards the antivenene.

In the first series, it was found that 0.0004 (2500th) c.cm. per kilo. was a sufficient quantity of antivenene to prevent the lethal effect of slightly more than the minimum lethal dose of venom; that 0.24 c.cm. per kilo. of antivenene was required for one and a-half the minimum lethal dose; that 0.35 c.cm. per kilo. was required for twice the minimum lethal dose; that 0.65 c.cm. per kilo. was required for thrice the minimum lethal dose; that 1.2 c.cm. per kilo. was required for four times the minimum lethal dose; that 1.5 c.cm. per kilo. was required for five times the minimum lethal dose; that 2.5 c.cm. per kilo. was required for eight times the minimum lethal dose; and that 3.4 c.cm. per kilo. was required for ten times the minimum lethal dose.

These results show that there is a remarkable accordance in the increment required in the dose of antivenene for each increment in the dose of venom. Indeed, from twice the dose of venom upwards, the addition of little more than 0.3 c.cm. per kilo. represents the addition in the quantity of antivenene required for each additional minimum lethal dose of venom. Apparently, when mixed *in vitro*, antivenene in this proportion is able to prevent death from almost any dose of venom, however large it may be. The results are in marked contrast with those that occur when an antidote acts because of its physiological properties, and they alone suggest that the antidotism is rather the effect of a chemical than of a physiological reaction.

In the second series, experiments with the antivenene from the horse have been completed only with one and a-half the minimum lethal dose of venom. When this dose was injected into the subcutaneous tissues at one

side of the body, and immediately thereafter a dose of antivenene, at the opposite side, it was found that the smallest dose of antivenene capable of preventing death was 3.5 c.cm. per kilo.

In the third series, experiments have been made with the minimum lethal, one and a-half the minimum lethal, and twice the minimum lethal. With the first of these doses recovery occurred with 0.42 c.cm. per kilo. of antivenene; with the second, with 2.7 c.cm. per kilo.; and with the third, with 4.0 c.cm. per kilo.

In the fourth series, where the results give the truest indications of the antidotal value of antivenene in the actual treatment of snake bite, it was found that the smallest quantity of antivenene that could prevent death when injected thirty minutes after slightly more than the minimum lethal dose of venom was 0.65 c.cm. per kilo.; when injected thirty minutes after one and a-half the minimum lethal dose it was 3.2 c.cm. per kilo.; and when injected thirty minutes after twice the minimum lethal dose of venom it was 5 c.cm. per kilo.

It is impossible to consider the great difference between the dose of antivenene required when the two substances, though in each case simultaneously administered, are, in the one case, mixed together before injection, and in the other, not so mixed, without having the suggestion again raised that the antidotism is the result of chemical and not of physiological reactions.

In the experiments which I have hitherto described, and, indeed, apparently in all others made in this new subject of serum therapeutics, protection has been produced and the antidotal properties of the antitoxic blood serum have been tested by the subcutaneous, or less frequently by the intravenous, injection of the venom or other toxic substances. No endeavour seems to have been made to discover how far the same effects, or what effects, may be produced by stomach administration.

Anticipating that results of an interesting nature might be obtained by this method of administration, I have adopted it for the introduction of both antivenene and venom into the body, and the results have exceeded my anticipations.

Among other experiments with antivenene, single doses of 7 and of 10 c.cm. per kilo. were introduced into the stomach of white rats, in some instances three hours, in others, two days, and in others three days before one and a-half the minimum lethal dose of venom was subcutaneously injected, and in all cases the animals recovered.

As antivenene is itself almost devoid of physiological action, how is the operation of this physiologically inert substance to be explained? When an answer has been attempted to be given to this question in discussions in the wider field of the serum therapeutics which deals with the toxins of disease, the answer has been found either in the destructive power of phagocytes upon microbes and their toxins, or in the theory that the toxins elaborate from the blood the antidotal antitoxins, which, whether thus originated or separately introduced into the body, confer upon the body a resisting power which enables it to oppose successfully the injurious action of the toxins.

These answers do not solve the problem in so far as snake venom is concerned. Phagocytosis cannot, of course, operate *in vitro* in solutions which are free from organised structures. Even when solutions of venom and antivenene, mixed together *in vitro*, have been inserted into the body, it is incredible that the increase in the quantity of antivenene by the 500th part of a cubic centimetre could cause such an increased proliferation of leucocytes as to prevent a lethal dose of venom from producing death, whereas a dose of antivenene 500th part of a cubic centimetre smaller would be unable to do so. Further, there is no observable increase of leucocytes when much more

than these infinitesimal quantities of antivenene have been administered to an animal.

In view of many of the facts that have to-night been stated, the "resistance of tissues" theory is also untenable. It is opposed, for instance, by the fact that so great a quantity as 0.42 c.cm. per kilo. of antivenene is required to prevent death when given thirty minutes before a lethal dose of venom, whereas, for the same dose of venom, only .0004 c.cm. or the 2500th part of a cubic centimetre, or nearly the 1000th part of the former dose is sufficient, provided it be mixed with the venom before administration, and in circumstances therefore which are much less favourable for the production by the antivenene of this supposed increase in the "resistance of tissues."

A chemical theory, implying such a reaction between antivenene and venom as results in a neutralisation of the toxic activities of the venom, is however, entirely compatible with the observed facts.

Definitions arrived at by experiment of the antidotal value of the blood serum of animals protected against different quantities of venom indicate, with some limitations in the largest quantities, that the greater the quantity of venom that has been introduced into the body within any given time, in the process of producing this protection, the greater is the antivenomous power of the blood serum, and therefore the larger is the production of the antivenene. While not an actual proof, this circumstance at the same time is in harmony with the supposition that the antivenene may after all be a constituent part of the venom itself.

The difficulties encountered in the separation by chemical methods of the several constituents of venom are so great that it is not probable that the only proof or disproof of this supposition will soon be obtained by chemical analysis. Some physiological experiments which I have made seem, however, to go a long way in supplying the demonstration which in the meantime has not been obtained from chemistry.

With the object of determining, in the first place, if the disputed statement is correct that serpents' venom is inert, or nearly so, when introduced into the stomach of an animal, some cobra venom was administered, in a series of gradually-increasing doses, to a cat, until finally it had received a single dose 80 times larger than the minimum lethal, and to each of six white rats single doses corresponding to 10, 20, 40, 300, 600, and 1,000 times the minimum lethal if given by subcutaneous injection. Although no definite poisonous symptoms were produced by even the largest of these enormous quantities, it was found that the cat had so far been protected that it could afterwards receive by subcutaneous injection one and a-half the minimum lethal dose of cobra venom without any other injury than some localised irritation at the seat of injection, and that the white rat into whose stomach 1,000 times the minimum lethal dose had been introduced by one administration survived perfectly when, seven days afterwards, the minimum lethal dose of venom was injected under the skin. It was also found that the blood serum of the cat was definitely antivenomous, and the curious fact, further, was ascertained that her progeny had acquired protection through the milk supplied by the protected mother, thus supplying a scientific foundation for the half-admitted conviction expressed by Wendell Holmes throughout his *Romance of Destiny* in regard to the heroine, Elsie Venner.

These significant facts have been extended by a number of other experiments on white rats. In one series of experiments each animal received by stomach administration 500 times the minimum lethal dose if given subcutaneously, and, as before, no definite toxic symptoms were observed. On the day following this administration, three of the animals received subcutaneously one and a-half the minimum lethal dose of the same cobra venom, and they all recovered.

In a second series of experiments a dose of cobra venom equivalent to 1,000 times the minimum lethal, if subcutaneously injected, was introduced into the stomach. On several occasions in which this had been done, a subsequent injection under the skin of one and a-half the minimum lethal dose, made in some experiments two days and in others three days afterwards, resulted in the recovery of the animals. The extraordinary result was thus obtained that serpents' venom introduced into the stomach in large quantity, in a quantity which if injected under the skin would be sufficient to kill 1,000 animals of the same species and weight, while it failed to produce any definite symptoms of poisoning, nevertheless produced in a few hours complete protection against the lethal effect of a dose of venom more than sufficient to kill the animal. There is a probable significance, also, in the general resemblance between the results of these experiments and of those already described in which antivenene and not venom was introduced into the stomach. They are suggestive not only in regard to serpents' venom, but also to wider questions bearing upon protection against the toxins of diseases and the origin of the antitoxins used as curative agents in the treatment of these diseases.

It is difficult to account for them otherwise than by supposing that the venom while in the stomach had been subjected to a process of analysis, by which the constituents which are poisonous had failed to be absorbed into the blood, or had been destroyed in the stomach or other part of the alimentary canal, while the constituent or constituents which are antivenomous, or rather antidotal, had passed into the blood in sufficient quantity to protect the animals against otherwise lethal administrations of venom. I confidently anticipate that this natural process of analysis will by-and-bye be successfully repeated outside of the body by chemical methods.

Early this evening I had occasion to point out that the leading facts connected with immunisation or protection, now being advanced as scientific novelties, had apparently been ascertained and practically applied for centuries by savage and uncultured tribes and sects in various parts of the world. In regard to the results I have last described also, I discover that I have been anticipated by a long-existing and even now prevailing practice of unlearned savages.

In the *Lancet* of 1886 Mr. Alfred Bolton, L.R.C.P., states that "the natives in Bushmanland, Namaqualand, Damaraland, and the Kalakari are in the habit of extracting the poison gland from the snake immediately it is killed, squeezing it into their mouths and drinking the secretion, and they thereby appear to acquire absolute immunity from the effects of snake bites..... Having a month ago seen a native named Snellsteve, who is a snake-poison drinker and a snake collector, put his hand into a box containing two yellow cobras and several horn and night adders, in doing which he was severely bitten, and has never since suffered anything more than a little pain, such as might be caused by any trivial mishap, I feel I can no longer refuse to believe in the efficacy of the snake virus itself as a remedy against snake poison."

Among several communications on this subject which I have recently been favoured with is one from Dr. Knobel, of Pretoria, who writes that when a boy he came into frequent association with a shepherd, who informed him that for years he had been in the habit of swallowing small quantities of the dried venom glands of serpents, and he averred that by doing so he obtained protection against serpents bites, for he had often been bitten without any other ill-effect than that an irritable wound was produced. He stated that the swallowed venom of the cobra produced greater protection than the venoms of less poisonous serpents, and that not only was this benefit produced, but there was also produced an exciting intoxication, differing from that of Indian hemp in so far that the venom always

produced the same degree of intoxication with a definite quantity however frequently it was taken, whereas the effects of the Indian hemp were gradually lessened by repetition.

Another correspondent, Dr. Laurence, of Cape Colony, writes that "a Kafir boy, aged about 25 years, frequently brings me for sale snakes of all kinds. . . . I have frequently seen this boy take hold of some most deadly snakes, especially the well-known puff-adder, which he will allow to bite him with impunity. Yesterday, I obtained from him what he states as the reason why the poison did not harm him. When a little boy, while walking in the veldt, a puff-adder fastened on his leg. He shook it off, calling to his father, who, a few minutes after, killed the puff-adder and removed the poison-glands. He then made small paper pellets and dipped them in the poison, and administered one occasionally to the boy who stated that that cured him."

Some other letters I have received describe similar events, and also confirm the statement of Dr. Knobel that serpents' venom produces intoxicating effects, evidences of which have also been observed in many of the experiments made by me on the lower animals.

The results of the experiments in which the venom was introduced into the stomach probably afford an explanation of the protection enjoyed by certain snake-charmers, as well as by other individuals who claim to be protected, whether members of special sects or not; for although inoculation of the venom is apparently sometimes practised by them, and protection is no doubt assisted and maintained by the bites which, with impunity, they frequently receive, they are known also to swallow venom or the poison glands containing it.

These experiments also seem to throw a new light upon the clearly-established protection possessed by venomous serpents against their own venom. They suggested the importance of determining if the blood serum of venomous serpents contains, as does that of artificially-protected animals, an actual substance possessing antivenomous properties.

In order to arrive at some definite conclusions on this subject, I last year obtained from India several living specimens of the hamadryad (*Ophiophagus elaps*), a serpent of greater size and more aggressive disposition than the cobra, and reputed to be as deadly as it. From the blood of several of these serpents a serum was separated which, when dried, gave a product having the same physical characters as the antivenene from artificially protected animals. It was tested against cobra venom, both when mixed with rather more than a minimum lethal dose and also when injected thirty minutes after this lethal dose of cobra venom. In the former case, 0.25 c.cm. per kilo. of this antivenene prevented death; and, indeed, so perfectly antagonised this certainly lethal dose that no decided symptoms of poisoning were manifested. In the latter case, 5 c.cm. per kilo. was found to be a sufficient quantity to prevent death.

I hope by-and-bye to extend these observations by testing the antidotal power of this serum against the venom of the actual hamadryad, from whose blood it had been separated. A determination of this kind has, however, been made with the blood serum and venom of the Australian blake snake (*Pseudechis porphyriacus*), a deadly serpent whose bite produces intense destructive changes not only at the place where it has been injected, but also in the blood and in many of the organs of the body. When the blood serum and the venom of this serpent were mixed together outside of the body and then injected under the skin of a rabbit, it was found that half a cubic centimetre per kilogramme of the blood serum was sufficient to prevent death from rather more than the minimum lethal dose of the venom.

Notwithstanding the obliging co-operation of the India Office I have not yet succeeded in obtaining the blood serum of the cobra, but it may safely be anticipated that it also will be found to possess antivenomous properties.

The foregoing statements, although referring mainly to observations on the lower animals, have probably in every particular a very direct bearing on both the prophylaxis and treatment of snake poisoning in man.

In the meantime I cannot adduce any actual experience of its use in human beings, as although a considerable quantity, both in the liquid and dry state, was last summer sent to India, and a smaller quantity to Africa, no opportunity for using it as an antidote has as yet occurred in the districts to which it had been sent. In regard to the altogether unsatisfactory experience of the use of medicines, ordinarily so called, I am not prepared to take the extreme position that no good can be done by their employment. While the evidence shows that no one of the very large number of those that have been recommended as antidotes is able, in any conditions of administration, to prevent death after the reception of even the smallest lethal dose of venom, it still may be that, by the physiological effects which they produce, they may assist any efficient antidote, such as antivenene, in preventing death; and also by prolonging life, increase the opportunity for a more thorough use of this antidote. In this category I would especially place medicines which increase secretion, such as diaphoretics and diuretics; many of the rapidly acting stimulants of the circulation, such as alcohol and the old snake remedy, ammonia; and stimulants of respiration such as atropine and strychnine, the latter of which is enthusiastically championed by Dr. A. Mueller of Sydney. And not only medicines, but also any measures that are available for these purposes, including artificial respiration, so distinctly indicated as probably a valuable therapeutical application in snake-bite by Fayrer and Brunton, which, though shown by the Indian Commission to be incapable of preventing death when alone trusted to, was also shown to possess the valuable auxiliary power of prolonging life.

[Other auxiliary measures, such as the application of a ligature, and the removal, as far as possible, of the injected venom by the opening up of the wounds and the application of suction by the mouth, or preferably by a suction apparatus, such as that invented by Mr. Andrew Smith of Cape Colony, were described by the Lecturer. These steps having been taken, antivenene should be injected into the tissues at or near the wound, and also under the skin above the ligature, and the ligature should not be removed until at least half an hour after a sufficient quantity of antivenene has been injected under the skin above it.]

But the important question has yet to be answered: What is a sufficient quantity? The whole tenor of my remarks has been to show how necessary it is to bear in mind that there is a definite relationship between the dose of venom received and the dose of antivenene required to antagonise it, and that this relationship also varies with the conditions of the administration of the antivenene, and especially with the interval of time that elapses between the reception of the venom and the administration of antivenene.

In snake bite in man it is impossible to estimate the dose of venom that has been introduced, for the nature of the symptoms of the patient cannot give the information even approximately. In searching for a solution of this problem several facts were taken into consideration which led me to conclude that the smallest quantity capable of producing death in a man of 10 stones would, according to certain data, be about 0.0317 gramme. In order successfully to prevent death from this dose it is probable that 330 c.cm., or about 11½ ounces of antivenene would be required if injected not much longer than thirty minutes after the bite had been inflicted. This;

though a large, is by no means an impossible dose, and it could without much inconvenience be introduced under the skin at several parts of the body. On the other hand, by assuming other data, the dose would be found to be a considerably smaller one, and one indeed which in the same circumstances could be successfully antagonised by about 4 ounces of antivenomous blood serum. Each of these quantities, further, could be reduced in bulk to about one-half by dissolving dried antivenene in half the quantity of water required to restore it to its original bulk.

It must be admitted, however, that in both cases the quantity of antivenene required to prevent death is inconveniently large, especially if in the treatment reliance is placed solely upon the administration of antivenene to the exclusion of all or several of the auxiliary measures that have been described. It is clearly desirable, also, that the antivenene treatment should be a practical one, not only for doses of venom which do not much exceed the minimum lethal, but also for the considerably larger doses that are occasionally introduced in snake bite.

To attain this object further work is required in order that an antivenene may be produced even more powerful than that whose antidotal capabilities have been described. I am not sanguine that this will be accomplished by carrying to a higher degree the process of artificial protection in animals. A comparison of the antivenene of rabbits, which had last received 30 times the minimum lethal dose of cobra venom with that of other rabbits which had last received 50 times that dose, has shown that the latter has but little antidotal advantage over the former, and has suggested that in the process of artificial protection the saturation point of the blood for antivenene is reached before the possible maximum dose of venom has been administered. I would anticipate with more hope the results of endeavours to separate the true antivenomous principles from the inert constituents of the blood serum with which they are mixed; and some degree of success has already been obtained in my endeavours to do so.

In the foregoing remarks it has, however, been shown that even with the antivenene whose properties have been described, human life may be saved in a considerable, if not in a large proportion of the cases of snake bite which would otherwise terminate in death. The attainment of this result is a satisfactory one, for the mortality from snake bite is large and is not restricted to the 20,000 deaths which annually occur in India, but includes additional thousands in all the tropical and subtropical regions of the world. Against this ever-present and formidable enemy the inhabitants of these countries have awaited for centuries a remedy whose antidotal value and limits of curative power have been established by experimental demonstration.—*The British Medical Journal*, April 18, 1896.

VOCAL TRAINING.

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The power of expressing thought in articulate speech is distinctively human, and the modulation of tone in expression makes all the difference between hearing an eloquent address and reading the same in the next issue of the morning paper; or, perhaps, we only truly appreciate the influence of expression when we note its absence in the tiresome monotone of the deaf person. It is not necessary to dwell upon the wonderful power of the properly equipped human voice, it has been the theme of orators, the inspiration of poets: it has moved men and nations to deeds of valor, it has established peace with "her victories no less renowned than war;" it has encouraged the living; it has comforted the dying; it is recognized everywhere and by everybody; and yet, it is seldom that those, who in business or pleasure, make large use of the voice attempt in any way to properly train the organs of speech; if you except singers there are scarcely any who do: lawyers, ministers, teachers, public speakers, politicians, all use the voice largely, and yet it is only here and there an individual who properly trains it; the majority of our orators to-day are eloquent because they have been generously endowed by Nature, not because they have, like Demosthenes, overcome obstacles and developed the art, and the majority of them are also ruining the endowment received, by improper use. Modulated speech is to many a natural gift and as is too often the case with the gifts of Nature, is rarely developed as it should be.

Preliminary to all vocal training is an ear trained to appreciate different wave sounds; the totally deaf, while they may be taught to speak intelligibly; always use a monotone, or are abrupt and inharmonious in their changes of tone; in its ultimate analysis the ear is the measure of all vocal training.

The behavior of the human ear to vocal modulation and musical notes varies within large limits; to some, difference in pitch is unrecognizable, others are deaf to melody, still others can only appreciate rhythm; occasionally there is one to whom music and musical tones are positively painful; all are capable of a certain amount of training—to the singer this training is of paramount importance—it must be thorough and minute, for without it, cultivation of the singing voice is impossible. No person, no matter how gifted, can be his own singing master; no amount of self training will secure the fine modulations and tones necessary to the highest excellence, because no one hears his own voice as others hear it. Upon the first introduction of the phonograph it was noted that while the voice of friends as reproduced could be easily recognized, ones' own utterances sounded strange and unfamiliar. Nor is this surprising when we consider the possibility of the sound waves produced in the larynx, reaching the auditory

nerve of the producer through other and different channels than the membrana tympana and middle ear.

In training the voice proper, there are three sets of muscles or organs that are involved : First, the lungs are furnishing the power ; second, the larynx as forming the tone ; third, the nasal and oral chambers as resonanters.

In ordinary respiration, *inspiration only* is active, expiration taking place by the natural resiliency of the lung tissue and muscular relaxation ; in vocalization, *expiration* becomes active, and the control over this process is of especial importance to vocalists, but proper expiration presupposes proper inspiration, consequently the commencement of lung training consists in obtaining good, full, free, easy and noiseless inspiration, this is of importance not only in giving character and fullness to the tone but in enabling the vocalist or singer to so time his breath taking that it shall come at some natural pause and consequently be unnoticed by the hearers : to obtain the best and fullest inspiration the thoracic cavity must be enlarged in *all* its diameters ; this is accomplished by the use of the diaphragm and intercostal muscles conjointly, and when so used, one can feel the air enter all portions of the lungs ; ordinary respiration changes but a small amount of the total volume of air and can be accomplished by either set of muscles, consequently we are too apt to rely upon and develop but one ; the singer or speaker must have despotic control over and use *both* forms ; certain exercises tending to develop this power are familiar to all vocal teachers, and constitute a fundamental portion of their training. It is not my purpose to mention them here—they require constant practice until they become habitual ; the use of certain accessory muscles in the neck is *not* necessary, the clavicles should *not* move with the respiratory effort. So much has been written and taught upon the importance of the air entering the apices, without giving any rules or exercises for accomplishing it, that many people, impressed by its importance, and left to their own resources have striven to force the air into these portions of the chest cavity by contracting the neck muscles and raising the clavicles ; indeed, some corset manufacturers contend that inasmuch as the corset interferes with the full expansion of the lower chest, it necessarily throws the air into upper portions and inflates the apices. The important fact here is the acknowledged impediment to costal and diaphragmatic breathing, and this is easily proven ; a few spirometer tests will convince the incredulous. Very few, if any, who wear the corset, even when worn loosely, can show a normal lung capacity, and the removal of the corsets will at once increase the capacity. While proper inspiration is fundamental, the management of expiration is especially and particularly valuable to the vocalist, normally passive, it is even, regular, and of uniform force, in vocalization it becomes active ; the voice user must have despotic control over it ; he must be able to use the supply of air in the chest as he wills, now forcing it out with some power, now allowing it to escape evenly and slowly ; now holding it ; and this must be accompanied by the use of the respiratory muscles, not the muscles of larynx and throat, there is no one thing that voice users neglect more than this and there is no one thing

that tends to vocal trouble and disease more than such neglect. Let any one who has not tried, attempt to cut short a respiratory act and they will feel the laryngeal muscles brought into play, let them repeat the trial many times and they can plainly feel the strain of these parts, this strain sooner or later leads to chronic congestion ; the proper control of expiration is the control of the muscles of inspiration in their relaxation, by these you hold the diaphragm down and the ribs out, the lung tissue must fill the space so made and the expiration be arrested without damage to the larynx ; for forced expiration the inner intercostal muscles and those of the abdominal walls are brought into play ; finally all voice users should keep as much air as possible in the chest during vocal exercise, it gives a good background for the voice and a certain amount of reserve force which is always desirable.---
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The Chronic Diseases, their Peculiar Nature, and Homœopathic Cure. By Dr. Samuel Hahnemann. Translated from the Second Enlarged German Edition of 1835, by Prof. Louis H. Tafel. With Annotations by Richard Hughes, M.D. Edited by Pemberton Dudley, M.D. Boericke & Tafel. Philadelphia, 1896.

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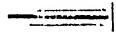
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THE
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OF
MEDICINE

VOL. XV.]

June 1896.

[NO. 6.]

INTERNATIONAL HOMŒOPATHIC CONGRESS, 1896.

From the programme we publish below it will appear that the Homœopathic Congress, about to be held in London, is bound to be a success. Dr. Hughes, the permanent General Secretary of these Congresses, has been unwearied in his efforts to make the London gathering worthy of Homœopathy, of the British Homœopathic Society, and of London. For over two years he has been issuing circulars and letters of invitations to physicians of the new faith all over the world. The response which he has received has enabled the general committee to publish the final programme of business.

So far as we can anticipate, this fifth Congress is not likely to compare unfavorably with any of its predecessors, not even with the fourth which was held in Atlantic City, America, nor even with the World's Homœopathic Congress, held also in America, both of which were the largest gatherings of members of our school. At the fourth Congress, the history of homœopathy in nine countries,—England, New Zealand, India, Germany, Austria, Switzerland, Denmark, Mexico, Russia,—were presented. The World's Congress, in this matter of history, was poorer: addresses on the history of homœopathy in only four countries were read,

Great Britain, India, Australia, Ontario. In the forthcoming Congress there are promises, which are likely to be fulfilled, of such history from no less than sixteen countries. So that, in point of its international character, this fifth Congress will beat all its predecessors. This does not detract from the importance and character of the previous Congresses. It only points to the gratifying fact of the spread and progress of homœopathy.

In point of the number of papers and addresses, the present Congress will, we are afraid, fall short of both the fourth Quinquennial Congress and the World's Congress. In the fourth Congress the number of papers was fifty-six, in the World's Congress that number rose to eighty-nine; whereas in the present Congress the number of papers promised is only twenty-six. This is what we cannot account for, inasmuch as, so far as we can judge, the General Secretary has been most assiduous and earnest in his repeated appeals to his colleagues throughout the world. Is it because this Congress is being held so soon after the last, the World's Congress, that his appeals have not been responded to with that warmth and eagerness which the importance of the Congress as representing the centenary of the discovery of the homœopathic principle should have prompted? If so we can only look upon it as most unfortunate. We are confident, however, that in point of solid merit the papers will not be inferior to any that were read in the previous Congresses; and we are sure that the presidential address will be worthy of the occasion and of the distinguished occupant of the chair.

It is not possible to anticipate how the present Congress will fare as respects the number of those who will attend it. We trust Europe and America will be well represented. If the latter country sends representatives proportionate to the number of her homœopathic practitioners, and if our colleagues of Great Britain will but remember that the number in which they turn out at the Congress will not only be the index of the earnestness and genuineness of their medical convictions, but be also the test of their solicitude for the honor of their country, the foremost in science and civilization of all the countries of the world, then we need entertain no fear of this Congress suffering from smallness of numbers in comparison with its two giant predecessors. It is a matter of no small regret that there will be no representative

from India. And to us personally it is nothing short of a misfortune that with all our yearning for the pleasure and the privilege of meeting our colleagues from different parts of the world, the state of our health should stand in the way of our enjoying that pleasure and privilege, and of fulfilling our duty to the cause we have been advocating for upwards of thirty years. But though unable to be present amongst them in the flesh, our humble prayer will ceaselessly ascend to Heaven for blessings upon their deliberations.

Honorary President : DR. DUDGEON.

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36, Sillwood Road, Brighton.

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THE Fifth Quinquennial Gathering of the International Homœopathic Congress will take place in London during the week *August 3rd—8th, 1896*,—the previous meetings having been held in Philadelphia, U. S. A., in 1876 ; in London, England, in 1881 ; in Basle, Switzerland, in 1886 ; and in Atlantic City, U. S. A., in 1891.

This Assembly will be open to all practitioners of medicine qualified to practise in their own country. Those who desire to become Members of the Congress should enter on its register, with which one of the Secretaries will always attend, their names, addresses, and qualifications. They will then receive a Card of Membership, which will admit them on all occasions, and they will be at liberty to introduce visitors at their discretion.

The General Meetings will be held in the afternoons of the *Tuesday, Wednesday, Thursday and Friday*, at the Queen's Hall, Langham Place, between the hours of 2-30 and 5-30 p.m. Supplementary Meetings for the further discussion of the topics of the preceding afternoons will be held at the London Homœopathic Hospital, Great Ormond Street (the Board Room of which has been kindly lent for the purpose), from 10 a.m. to 1 p.m. Any of the latter time not engaged for the subjects specified in the programme can be occupied by meetings for special purposes, as may be arranged among the Members themselves. On the *Saturday* a Business Meeting will be held at the Hospital, at 2 p.m.

No Papers will be read at the Public Meetings. The accepted Essays are being printed, and will be supplied to all who desire to take part in the

debates on their subject matter. They will be presented at the Meetings, singly or in groups, according to their contents,—a brief analysis of each being given from the Chair ; and the points on which they treat will then be thrown open for discussion, after appointed openers have been heard. Such openers will be allowed fifteen minutes, and subsequent speakers ten minutes, for their remarks ; the authors of the Essays discussed, if present, having the opportunity of saying the last word before the subject is dismissed.

It is intended that about an hour shall be allotted to each discussion, but the exact time will be left in the discretion of the Chair, or of the Meeting.

The discussions will ordinarily be conducted in English ; but any Member desiring to speak in another language shall be at liberty to do so. He shall, however, either obtain an interpreter, or, on rising, hand to the Presiding Officer a *précis* in English of the remarks he purposes to make, which, at the conclusion of his speech, shall be communicated to the Meeting.

ORDER OF BUSINESS.

TUESDAY, AUGUST 4th.

AFTERNOON.

Address of the PRESIDENT.

Presentation of Reports from the different Countries of the World as to the History of Homœopathy during the last five years, and its present state therein.

Austria-Hungary.....	Dr. Kafka, <i>Carlsbad</i> .
Belgium.....	„ Schepens, <i>Antwerp</i> .
Denmark	„ Hansen, <i>Copenhagen</i> .
France	„ Cartier, <i>Paris</i> .
Germany	„ Kröner, <i>Potsdam</i> .
Great Britain	„ Goldsbrough, <i>London</i> .
Australia	„ Ray, <i>Melbourne</i> .
Canada	„ Logan, <i>Ottawa</i> .
India	„ Sircar, <i>Calcutta</i> .
New Zealand	„ Lamb, <i>Dunedin</i> .
Holland	„ Borne, <i>Amsterdam</i> .
Italy	„ Bonino, <i>Turin</i> .
Portugal	M. Vancueilloz, <i>Oporto</i> .
Russia	Dr. Brasol, <i>St. Petersburg</i> .
Switzerland	„ Batault, <i>Geneva</i> .
United States	„ Kraft, <i>Cleveland</i> .

Discussion.—On the condition and Prospects of Homœopathy at the present time and the best means of furthering its cause.

WEDNESDAY, AUGUST 5th.

FORENOON.

1. *Essays for Discussion* :

Homœopathic Literature, its state and needs,.....Dr. Dyce Brown, *London*.

Homœopathic Literature, its state and needs.....Dr. Bradford, *Philadelphia*.
Subject for Discussion.—How shall we improve and complete our Literature.

2. *Essays for Discussion :*

The *a priori* argument for the Law of } Dr. Robert Walter, *Wernersville,*
 Similars } *Pennsylvania.*
 Some Reasons for a Belief in Homœo- } Dr. Walter Sands Mills, *Stamford,*
 pathy } *Connecticut.*

Subject for Discussion.—The Reasonableness of Homœopathy.

AFTERNOON.

1. *Essays for Discussion :*

Drug Selection by sequence of symptoms...Dr. Ord, *Bournemouth.*

“Can we prescribe homœopathically with
 more success by taking strict account
 of the pathological condition in our
 patient?” } Dr. J. M. Schley, *New York.*

Subject for Discussion.—The Selection of the Remedy.

2. *Essay for Discussion :*

The Place of Animal Extracts in Homœopathy. Dr. Clarke, *London.*

Subject for Discussion.—*Ibid.*

3. *Essay for Discussion :*

The Pathogenesis and Therapeutics of Aurum. Dr. Washington Epps, *London.*

Subject for Discussion.—*Ibid.*

THURSDAY, AUGUST 6th.

FORENOON.

1. *Essay for Discussion :*

Hahnemann's Doctrine of Chronic Diseases. Dr. Goldsbrough, *London.*

Subject for Discussion.—*Ibid.*

2. *Essay for Discussion :*

A Posological Law.....Dr. V. Léon Simon, *Paris.*

Subject for Discussion.—Have we here or elsewhere, a law of dose ?

3. *Essays for Discussion :*

The Action of Mercury and Iodine in Syphilis. Dr. Hansen, *Copenhagen.*

Intermittent Fever..... Dr. P. C. Majumdar, *Calcutta.*

The Action of Colchicum and other “Specifics.” Dr. Hughes, *Brighton.*

Subject for Discussion.—The Specifics of Traditional Medicine.

AFTERNOON.

1. *Essays for Discussion :*

The Clinical Value of Tuberculin. Dr. Cartier, *Paris.*

The Value of Tuberculin in Purulent Pleurisy. Dr. B. Arnulphy, *Chicago.*

Subject for Discussion.—Tuberculin and its Congeners.

2. *Essay for Discussion :*

The Treatment of Strumous Ophthalmia. Dr. Bushrod James, *Philadelphia.*

Subject for Discussion.—*Ibid.*

3. *Essays for Discussion :*

Deafness, Pathogenetically considered. Dr. Hayward, *Birkenhead.*

On certain forms of Deafness and their
 corresponding remedies..... } Dr. Cooper, *London.*

Subject for Discussion.—The Possibilities of Internal Medication in Deafness.

FRIDAY, AUGUST 7th.

FORENOON.

1. *Essay for Discussion :*

Aural VertigoMr. Dudley Wright, *London*.

Subject for Discussion.—Ibid.

2. *Essay for Discussion :*

On the Homœopathic Character and Action }
of Mineral Waters..... } Dr. Kranz-Busch, *Wiesbaden*.

Subject for Discussion.—Ibid.

3. *Essay for Discussion :*

On Cutaneous Horns and their Treatment. Dr. Van den Berghe, *Brussels*.

Subject for Discussion.—Ibid.

AFTERNOON.

1. *Essay for Discussion :*

Homœopathic Vulneraries. Dr. Gilchrist, *Iowa City*.

Subject for Discussion.—Ibid.

2. *Essay for Discussion :*

Carcinoma of Uterus. ... Dr. James C. Wood, *Cleveland*.

Subject for Discussion.—Ibid.

3. Amenorrhœa with Mental Disorder. Dr. Burford, *London*.

Subject for Discussion.—Ibid.

SATURDAY, AUGUST 8th.

FORENOON.

1. *Essay for Discussion :*

Purulent Collections in the Thorax. Dr. J. D. Hayward, *Liverpool*.

Subject for Discussion.—Ibid.

2. *Essay for Discussion :*

Appendicitis : Its Medical and Surgical }
Treatment..... } Dr. Horace Packard,
Boston, Massachusetts.

Subject for Discussion.—Ibid.

3. Oxy-Chloroformic Anæsthesia. Mr. T. G. H. Nicholson, *Liverpool*.

Subject for Discussion.—Anæsthesia.

AFTERNOON.

Miscellaneous Business.

PRESIDENT'S RECEPTION.

On Monday, August 3rd, at 8-30 p.m., the President will hold a reception at the Queen's Hall. To this all attending the Congress are invited, with the ladies of their families ; and it is especially desired that visitors from abroad should take this opportunity of becoming known to the Officers and their colleagues in general. The Secretaries will be present to enrol Members and issue tickets. *Evening Dress*.

Further Social Entertainments are in contemplation, and will be duly announced.

EXPERIMENTS WITH BRYONIA CARRIED ON
IN THE LABORATORY OF THE ST. JACQUES
HOSPITAL, PARIS.

By DR. P. JOUSSET.

(From *L'Art Medical* for May 1896)

I. EXPERIMENTS WITH THE ALCOHOLIC EXTRACT.

In the first series of these experiments we used the alcoholic extract of Bryonia, redissolved in glycerine, 1 gramme of the extract representing 5 grammes of the mother tincture. Two guinea-pigs and a rabbit were employed for this experimentation.

Guinea-pig No. 1 received at first 1-10th of a cubic centimetre, then successively 2-10ths, 4-10ths, 4-10ths again, 6-10ths, then 1 centimetre, then rest for one day, then for two successive days 2 centimetres each. The total given was 6 centimetres and 7-10ths, representing 30 centimetres of the mother tincture of Bryonia.

With doses under 1 centimetre employed at first the temperature of the guinea-pig was raised from 37.8 to 39.5 C. With 1 centimetre it fell to 37.2 to rise again on the following days to 39 and 38.8.

The dose of 2 centimetres brought down a considerable fall of temperature, 34.2, followed by a reaction to 38 and 38.6. The second dose of 2 centimetres brought on death with coldness below 34.

The other symptoms were loss of appetite, copious serous diarrhoea, and great emaciation. Death took place on the twelfth day. The post mortem revealed no lesion. The mucous membrane of the small intestines was pale.

Guinea-pig No. 2. In this animal the doses were stronger. We began with 1 cubic centimetre on the first and the third day, then gave 2 centimetres on the fourth, then 2 centimetres on the sixth, the seventh and the ninth day, and 3 centimetres on the tenth day. The guinea-pig died on the following day from collapse and extreme coldness. There was rise of temperature to 29.2 from 1 centimetre. The temperature varied from 38 to 38.5 from 2 centimetres. After 3 centimetres it fell to 35 and rose again to 36.2 on the following day, and without any fresh dose of the medicine it fell again below 35 and the animal died. Its weight diminished from 480 to 340 grammes. There were

diarrhœa and loss of appetite. The left lung was congested. The guinea-pig had taken altogether 13 cubic centimetres of the glycerine solution of the extract, that is, about 65 centimetres of the mother tincture.

Experiment upon a rabbit.—On the first day 2-10ths of a cubic centimetre, on the second day 4-10ths, on the third day 8-10ths, on the 4th and the 5th days, 1 centimetre each, were given. During all this time the temperature was very high, between 39 and 39.6.

On the sixth day 2 centimetres were given, and the temperature fell to 35. The day following the injection, the temperature rose again to 39.4. On the 8th and on the 10th day, 2 centimetres again were used. Collapse, temperature below 35, and death.

Diarrhœa and loss of appetite were present as in the guinea-pigs. At the autopsy were seen: Effusion into the peritoneum, but perhaps this was due to the penetration of the puncture of the hypodermic syringe; inflammation of the skin and of the sub-jacent tissues at the place of the puncture; intestinal mucous membrane very pale; the left lung presented two patches of congestion, nothing in the trachea or the bronchi.

It follows from these three experiments that moderate doses of *Bryonia* cause a rise of 1 to 1.5 degrees of temperature; that usually the temperature curve does not present great oscillations; that toxic doses produce a lowering of 3 to 4 degrees of temperature; that if the administration of the medicine is suspended, a reaction more or less strong takes place, followed by fresh fall of temperature and death.

A copious serous diarrhœa, loss of appetite, and great emaciation were noted in all the cases.

In two cases congestion of the left lung was noticed, and an effusion into the peritoneum which, we believe, perhaps wrongly, was produced by the direct penetration of the injection.

II. *Series of experiments with aqueous-glycerine extract of Bryonia upon two guinea-pigs and a dog.*

Guinea-pig No. 1. On the two first days a half centimetre was injected. The temperature did not rise. On the third day, 1 centimetre was injected. The temperature rose from 37.4 to 38.8. The following day the temperature fell to 37, and the animal was dead.

The guinea-pig died prematurely. There was an extensive detachment of the thoracic wall into which the injections had penetrated. The muscular tissue was extremely soft and this region exhaled an insupportable gangrenous odour. The pleura was the seat of a very slight effusion, and the lung was congested.

We cannot account for the rapid death of this animal, and the enormous lesion, which was presented by the thoracic wall.

Guinea-pig No. 2. On the first and on the second day half a centimetre was injected. The temperature oscillated between 38.5 and 39.

On the third day, 1 centimetre was injected. The temperature rose to 39.9, but fell on the following day to 38.5. On the fourth day no injection. The temperature remained at 38, morning and evening. On the fifth, the sixth, the seventh, and the eighth day the guinea-pig received a half centimetre. On the first day of the renewal of the injection the temperature was 39.9 and fell to 38.7 on the eighth day. At the beginning of the ninth day the animal received 1 centimetre, the same on the tenth day. Rest on the eleventh and twelfth days. On the thirteenth, 1 centimetre. On the following day, death.

The first day the dose was 1 centimetre the temperature rose to 39.5. Afterwards it fell by degrees to 38.

On the eleventh day when the animal did not receive any injection the temperature remained at 38.5, morning and evening.

We relate further that on the sixth day when the guinea-pig did not receive any injection, the temperature fell to 36 in the evening, and on the following morning it rose again to 39.

The guinea-pig had dyspnoea; on the eighth day it had already 104 respirations per minute. On the ninth day, when we began to inject 1 centimetre, the animal had 120 respirations; on the following days 116, 112, and on the day of death 108 respirations.

The guinea-pig had no diarrhoea, and took food almost every day. Nevertheless it was very emaciated.

At the autopsy we found an abundant, lemon-colored, serous liquid in the pleural cavities, especially of the left side, an abundant effusion of a similar liquid in the pericardium and peritoneum. The superior lobes of the lungs were congested and swam between two waters.

The liquid of the effusions, examined under the microscope,

did not present any microbe. We infected several tubes of bouillon with the liquid. Placed in a stove the bouillon continued sterile.

Experiment upon a young dog.—This animal received at first every morning, on the 28th, 29th, and 30th March, a half-centimetre of the aqueous extract of Bryonia dissolved in glycerine. Under the influence of these injections the temperature rose from 38, the normal temperature of the dog, to 39.5 and 39.8 in the evening. In the morning the temperature fell a few decimals.

On the 31st March we injected 1 cubic centimetre.

On the 1st, 2nd, and 3rd April we injected $1\frac{1}{2}$, on the 4th, 2 centimetres. Under these new doses the febrile movement increased and the first day it rose to 42.2. The following days the temperature fell to 39.2 and 39.5 in order to rise to 40 under 2 cubic centimetres on the 4th April. The character of the febrile movement was to present great oscillations, falling in the morning to 38.2. During this time the respiration was accelerated from 34 to 40 per minute and the pulse from 132 to 136. It was also at this time that rigors manifested themselves shortly after the injection; they lasted three or four hours. The appetite diminished very much, the thirst augmented. The animal had diarrhœa only once.

On the 5th there was no injection, and nevertheless the febrile movement was the same.

On the 6th, the 7th and the 8th we resumed the injection in doses of 2 centimetres. Temperature 40 in the evening, 38 to 38.5 in the morning. Other symptoms the same.

In the beginning of the 9th we replaced the aqueous by the alcoholic extract. At first $1\frac{1}{2}$ centimetre on the 8th and the 9th; then 2 centimetres morning and evening of the 10th and 11th; under this strong dose the temperature of the evening rose to 41.2 and that of the morning did not fall below 39. The respiration was 40 and the pulse 128. The rigors lasted an hour and half.

On the 12th and 13th the injections were suspended. The temperature remained between 39 and 39.5.

On the 14th, 15th, 16th, injections of 2 centimetres twice a day were resumed. The temperature rose above 40, and a copious serous diarrhœa established itself and continued till death.

On the 17th rest. The temperature fell to 38.

On the 18th we resumed the double quotidian injections of 2 centimetres. The temperature rose to 40.1.

We have to add that after eight or ten days abscesses formed at the level of the punctures though these were made with due regard for asepsis.

The dog became considerably reduced; it neither drank nor ate. One of the abscesses burst. We killed it with two drops of nicotine. The experiment had lasted twenty-three days.

Résumé of the Symptoms.—In the dog as in the guinea-pig Bryonia produced a remittent febrile movement, even when the drug was injected both morning and evening. The diarrhœa appeared to be a constant phenomenon, especially with the alcoholic extract. It was serous and extremely copious. We remark that in the dog, an animal which vomits easily, Bryonia did not produce vomiting.

In the dog marked and long-lasting rigors were constantly observed at the beginning of the febrile paroxysm. In one of the guinea-pigs the injection of Bryonia appears to have determined gangrene of the muscular tissue in contact with the injected liquid.

In the dog Bryonia determined the formation of abscess, the pus of which was thick and reddish, *without bacilli*, as we were assured by microscopic examination and by the cultured bouillon remaining sterile.

Autopsy of the dog.—The dog did not present any lesion. There was neither pleurisy, nor ascites. The posterior lobes of the lungs were congested. The trachea and the larynx examined with care did not present any lesion; the mucous membrane was absolutely white.

Résumé of our experiments.—From our experiments we are able to conclude that Bryonia produces in animals a febrile movement, a serous diarrhœa, and, in the dog, abscess. As regards lesions we have found only once in the guinea-pig a fibrinous effusion in the pleuræ, pericardium and peritoneum. Always some congestion of the lung limited to one lobe or a portion of a lobe, but never hepatization. We have not found any lesion in the larynx described by Curie.

1. The *febrile movement* was constant. Bryonia is then a *Febrigen*. The febrile movement is remittent, especially when they are used *only in the morning*. In the guinea-pig the medium doses raise

the temperature; very strong doses bring on fatal collapse. In the dog the last symptom did not manifest itself. But by way of compensation as it were the febrile movement in the dog was always accompanied by marked rigors.

2. *Serous diarrhœa*.—This was constant under the alcoholic extract; it has always presented the same characters; stools pale, very abundant and very profuse.

As regards lesions, they had for their characteristic, *absence of microbes*.

Our experiments demonstrate the error which looked upon Bryonia as capable of producing experimental diphtheria. If Dr. Curie has produced false membranes in the cat, it was because he caused the animals to swallow it; and thus the contact of this medicine, which is endowed with very irritant properties, produced a pseudo-membranous inflammation.

In this connection I should notice a carelessness displayed by Fonssagrives in his article Bryonia in the *Encyclopædic Dictionary*. He speaks of the experiments of Curie without having read them, for he mentions that this physician employed homœopathic doses in his experiments on animals. Now, Curie did not believe in homœopathic doses; he did not prescribe them to his patients. It is, therefore, erroneous to say that these experiments were made with these doses; they were, in fact, made with strong doses.

I add two more remarks: First, that the actions of medicines vary with the species of animals; second, that the mode (path) of introduction of the toxic substance into the organism causes variation in its action. Thus in the poisonings with Bryonia in the human species we get frequent vomitings. In the experiments we have related this symptom was never observed. I do not speak of rabbits and guinea-pigs which do not vomit, but of the dog which vomits so easily.

As for the difference of action, according to the species of animals, I would remark that guinea-pigs and rabbits are very much more sensitive than the dog to strong doses, which produce a very pronounced depression of the temperature. And finally, in none of the animals experimented on have we observed the tetanic spasms from the poisoning with Bryonia.

I ought to remark further that the aqueous extract was made with the root of Bryonia collected in winter, and which perhaps did not possess a very great activity. This preparation, though it produced fever, did not give rise in the guinea-pig to a collapse at all comparable to that produced by the alcoholic extract, nor the complete loss of appetite produced by the same extract. But in contrast with this, we obtained with the aqueous extract fibrinous effusions in all the serous membranes.

REVIEW.

Hahnemann's Defence of the Organon of Rational Medicine, and of his previous Homœopathic Works, against the Attacks of Professor Hecker. An Explantory Commentary on the Homœopathic System, translated by R. E. Dudgeon, M.D. Philadelphia: Boericke and Tafel. 1896.

HAHNEMANN occupies so commanding a place in the history of medicine, indeed, he towers so high above all others who have cultivated the healing art, and yet he is still so unknown to the majority of the profession, and if known he is still so unappreciated by a large majority of that majority that he is looked upon as a quack and a charlatan, or at best but a visionary and a founder of the most absurd system that has ever been promulgated,—such being Hahnemann's unique position, it is the duty of those who have the privilege of appreciating him to do their best to present him to the profession and the world in his true character. As we said, when presiding at the anniversary of his birth-day in 1888, "a systematic and unbiassed study, not only of all his great works, but of all his writings, in all their editions, will alone enable any one to achieve this difficult task." This we are glad to find to be but an endorsement of what Dr. Hering said in an article, entitled, "Requisites to a Correct Estimate of Hahnemann," published in the *Hygea* in 1847: "From the note in Cullen's *Materia Medica*, through all his subsequent writings, and even through the successive editions of the *Organon*, the materials must be industriously sought and carefully brought together down to the latest words of the expiring sage."

We have at last a Life of the Master which has nearly come up to the ideal set forth above. And here it gives us great pleasure to bear testimony to the industry and ability with which Dr. Bradford of the United States has compiled a biography of Hahnemann. He has done a most graceful act in having dedicated his work to the nestor of the homœopathic profession, Dr. R.E. Dudgeon of England, "than whom," as Dr. Bradford very justly says, "no one has done more to render the writings of Hahnemann accessible to the English-speaking world."

Dr. Dudgeon has laid the English-speaking world, which means three-fourths of civilized mankind, under fresh obligation

by his translation of the above work. The work appeared in the name of Hahnemann's son, Friedrich, as its author. But Friedrich Hahnemann, at the date of its publication, 1811, was a student and had not graduated, and therefore, as Dr. Dudgeon said in the *Homœopathic World* (1889) in which he first published his translation of Hahnemann's letter to his publisher Arnold, "it is extremely doubtful if he (Friedrich) had much to do with this learned anti-critique beyond lending his name, and possibly writing it out to his father's dictation." In the Introduction to the present translation, Dr. Dudgeon repeats his surmise of its authorship more positively: "This work, which has not hitherto been translated and has hardly excited the amount of interest it merits, though professedly written by Hahnemann's son Friedrich, is evidently the work of the much more competent father, as proved not only by the style and the learning it displays, but also conclusively by Hahnemann's letter to the publisher Arnold, the original of which I have before me, and of which a translation will be found below."

Dr. Dudgeon has enhanced the value of the book by giving the translation of Hahnemann's letter to Arnold at the end of the Introduction. The letter shows to what lengths the profession had already gone against the founder of the new doctrine; and it reveals also the state of exasperation into which the mind of the reformer was thrown by the abusive articles of Dr. Hecker. Ever since the publication of the *Essay on a New Principle for Ascertaining the Curative Powers of Drugs* in 1796, this Dr. Hecker had been directing his attacks against Hahnemann and his system, and these attacks became "ever more rancorous and calumnious" in proportion as the system became more and more clearly established. Hahnemann, however, preserved his equanimity all the while without taking any notice of these attacks as he "considered them of no importance, indeed absolutely futile." But Dr. Hecker, after the publication of the *Organon of Rational Medicine*, returned to the charge with such fierce and bitter animosity and with such confidence in his arguments as irrefutable, that the reformer could no longer keep his silence. He prepared a refutation, but whether, from an utter contempt for his adversary or for any other reason which it is now impossible to find, he would not

appear in his own name. He selected his son to own the authorship. But his son was then preparing for graduation, and fearing that the publication of such an "attack on an illustrious professor of the old school in Friedrich's name might have interfered with his chances of obtaining his degree, Hahnemann was careful to impress upon his publisher, Arnold, that the book when printed was not to be on sale until after Friedrich had taken his degree."

But just as a father Hahnemann was anxious that the publication of the *Refutation* should not wreck his son's worldly career by standing in the way of his graduation, as a reformer, impressed with the vital importance of his reform to mankind, he was equally anxious that it should appear. His grateful patient and publisher, Arnold, having hesitated to publish it, and having actually returned the MS to have some passages altered which were condemned by the public censor, Hahnemann made the alterations and wrote to him: "I wish you had read Hecker's abusive article against me; you would then think the *Refutation* is only too modest. You cannot wish that no reply should have been made by my son to these shameful accusations. * * Look now, though the author did not consider it necessary, yet to please you he altered and modified those passages."

To impress Arnold with the importance of his function as publisher he tells him: "It is incredible that charges of heresy and the spirit of persecution could find a footing even in scientific matters, and display their tyranny. * * But shall such a miserable charge of heresy prevent the most salutary truths being said and printed? *Freedom of action and liberty of the press* must prevail when grand new truths are to be communicated to the world. What could Luther have done with his splendid ideas if he had not been able to get them printed, if he could not have sent his outspoken solid truths hot from his heart to the press of his dear, courageous friend, the publisher and printer, Hans Luft? * * I and my son must be able to say wholesome truths to bring about the much-needed reform in medicine. Hans Luft was almost as indispensable an instrument of the Reformation as Luther himself. I, too, require for the good cause as warm, as cordial a friend of the truth for my publisher as Luft was" for Luther." "If the *Refutation* does not appear, it will be thought that these slanderous accusations against me and my *Organon* were unrefutable, and I would be as it were excommunicated." "If the enemies of the truth are not either silenced or convinced and instructed by this defensive work, the *Materia Medica* must prove useless." "If Hecker and opponents of his stamp remain unrefuted, I cannot with honor go on with

the works of instruction I am engaged in, and the *Organon* too will no longer be esteemed."

As regards the Refutation itself, "it is," as Dr. Dudgeon says, "a complete answer to all the objections made to his teaching, and it even carries the war into the enemy's territory, and delivers many doubtful blows to the scientific medicine of the period."

We have space only for a couple of specimens of the way in which Hahnemann deals with his adversary. With reference to the complaint that the prescribing for patients as enjoined by Hahnemann "is such an arduous and tedious business that a busy practitioner only moderately busy could not find time for it," he says :

Indeed ! How unused our Hecker must be to the performance of good deeds, that he considers the treatment of his fellow-creatures in the manner most conducive to their cure as such an arduous and tedious business ! The ordinary man would find a noisy tippling, a lewd conversation, an intrigue, or the gaming table, much less tedious than the art of saving men's lives, from which the saviour often gains nothing but heavenly peace of mind, a sensation unknown to the physician who suffers from hardness of heart.

For the writing of egotistical articles of no earthly value Hecker has lots of time, but to devote half an hour to a patient, and by doing so to procure for him the greatest of blessings, health, he has no time, for this *the days are all too short*.

Against the charge that he was ignorant of pathology, he thus delivers himself :

Now, as regards my supposed "ignorance of real pathology." As every text-book of pathology and every academic teacher of pathology has a *different pathology*, one of which is only distinguished from another by the greater absurdity of its hypotheses, while all *allow* to nature only a definite number and form of diseases, which she must only produce in the manner each author conceives according to his own imaginary hyperphysical conjectures, and as all these conjectures differ from those of every other pathological author, we may reasonably ask where among all these products of the brain is the only saving, true, *real pathology* to be found ?

We could multiply examples of such masterly refutation of the objections which Dr. Hecker had raised against all possible points of the homœopathic principle and system, but that would be to reproduce the whole book. We would recommend our readers to go through the work attentively from beginning to end, and they will find it to be a treat indeed. As the only defence of his doctrine which Hahnemann wrote against the most distinguished of his opponents, they will find it to be particularly interesting. Though a few of the views here expressed were subsequently modified by Hahnemann, on the whole it will be found to be the best commentary on the *Organon*. We cannot be sufficiently thankful to Dr. Dudgeon for translating and to Messrs. Boerick and Tafel for publishing it for the benefit of the profession, every member of which, whether belonging to the New or the Old School, ought to possess a copy.

EDITOR'S NOTES.

Madame Sarah Bernhardt's Refreshing Bath.

The following is the formula of a "rejuvenator" from which Mme. Sarah Bernhardt is said to get unfailing refreshment. It is a liquid in which she is bathed from head to foot—an *eau sélative*, Madame Bernhardt calls it. The prescription is as follows:—Two ounces of spirits of ammonia, two ounces of spirits of camphor, one cup and a half of sea-salt, two cups of alcohol. Put all into a quart bottle, and fill with boiling water. Shake before using. The method of application is very simple. The body is bathed with a soft sponge dipped in the undiluted liquid, and dried with the slight friction of a smooth towel. After the bath the stiffness and soreness of fatigue are all gone, the circulation is stimulated, and a gentle languor is induced, followed by a desire to sleep.—*The Practitioner*, June 1896.

Three Albinos in one family with Nystagmus.

Dr. Robertson Day exhibited this very curious trio of fair girls, aged respectively 14 and 9 years and 5 months. The parents were first cousins, aged 40 and 38, strong, healthy and with dark brown hair; they had had seven children, four albinos and three others, thus:—

- | | |
|----------------------------|----------------------------|
| 1. Boy, dark. | 5. Girl, albino, 9 years. |
| 2. Boy, albino, died. | 6. Boy, dark, died. |
| 3. Girl, albino, 14 years. | 7. Girl, albino, 5 months. |
| 4. Boy, dark. | |

The three girls shown were pure albinos, with white hair, pale blue eyes with red pupils, the eyes were in constant motion (lateral nystagmus), and skins without pigment, and much reddened from the sun's rays. They were all otherwise fine, well grown, healthy girls.—*The Monthly Hom. Review*, June 1, 1896.

Distribution of the Meals.

Prof. Imanuel Munk, of Berlin (*Zeitschrift für Krankenpflege*, April 1896), discusses the proper distribution of the meals, so as to ensure an adequate supply of necessary food when required by the body. "He shows that if an interval of over five hours is allowed to elapse between one meal and the next, the body is reduced to the necessity of feeding on its own albumen, fat, and carbohydrates. He discusses the different requirements for manual labour and for brain-work, but points out that the different arrangement of meals in different countries shows that custom has as much to do with the regulation of meal-times as physiological requirements. The common distribution of the day's food, both as regards the time for meals and the proportionate amount taken at each time, though entirely empirical, closely approximates to the physiological and hygienic requirements of the human body.

The Malarial Parasite.

The following is reproduced from the *British Medical Journal* of the 6th June 1896:—

Laveran (*Sem. Méd.*, May 9th, 1896) has examined patients suffering from fever contracted in Tonquin, Dahomey, Senegal, and Madagascar, and has found the organism described by him in 1880. He does not believe that the malignant fevers of tropical countries are caused by a special parasite. In some places—Madagascar, for instance—the organism is much more virulent than in temperate climates, owing to its surroundings; in the same way tropical plants do not thrive when removed to temperate countries. Although he found numerous amoeboid bodies, which were larger than usual (a condition very favourable to pernicious complications), in the blood of patients from Madagascar, he never met with the varieties described by some authors as peculiar to tertian, quartan, and irregular types. The morphological unity of the parasite in all countries is a good argument in favour of the unity of malaria in general. This is also supported by the clinical facts.

A Case of Persistent Vomiting in Pregnancy controlled by Zumo-Anana.

The *Southern Journal of Homoeopathy* (April 1896) publishes the following case reported by Dr. W. R. Endris of St. Louis.—Mrs. C., aged 26, married 4 years before. When the doctor was called he found the patient completely exhausted from the effects of a prolonged attack of nausea. This occurred three and half months since her last menses. She had been having attacks of nausea for three weeks, her pulse was very weak, and she complained of being very dizzy. Nothing could be retained in her stomach. The usual list of remedies such as Bromides, Chloral, Pepsin, Lactopeptine, Inguvin, &c., gave no relief. Hypodermics of Morphine had no effect, and even slight dilatation and application of cocaine to the os-uteri was tried without success. Failing with all known remedies, a dose of Zumo-Anana (Pine Apple Digestive Wine), very cold, was given. This was retained in the stomach for fully 30 minutes. Double the quantity was then ordered poured in a goblet filled with crushed ice to be drunk slowly. This also was retained, and in a short time the patient went to sleep. For a fortnight the patient continued to take the wine regularly before eating, and during that period experienced but one or two spells of vomiting.

Rheumatism cured by Surgery.

Dr. Wm. C. Harrison has reported the following case in the number of the *Journal of Official Surgery* for May 1896 :—

Mrs. H., age 51, married, eight children, catamenial period over. Complained of rheumatism in hands, feet and shoulders, cold extremities, intermittent heart beat, scanty urine, with bloat; could not close hands to grasp small objects, wore slippers four sizes larger than when well. Examination revealed extensive rectal disease, piles, papillæ, pockets and ulceration, also an almost complete rupture of perineum (of thirty years standing). Anesthetized (chloroform), repaired perineum by a semi-circular incision, beginning at upper margin of tear on left, ending upper margin on right, dissected up a flap into vagina, coapted cut surfaces with buried sutures, drew out

flap and stitched it to external skin, removed pockets, papillæ, curet-
ted ulcers, did slit operation and dilated sphincter. Patient came
from under anæsthetic, but after a few words spoken, she collapsed.
No wrist pulse, deep pallor, cold-beaded perspiration. Used nitrite
of amyl, nitroglycerine, ammonia, whisky and artificial respiration,
with happy results ; time not noted, but pulse came back, respiration
improved, pallor and perspiration gave way to rosy color and warm
extremities. In two hours patient could clench hands without pain
and complained of too much warmth. Used catheter frequently
during the following twenty-four hours ; did not measure urine,
though from two and a half to three gallons must have been drawn.
Skin hung in folds, hands and feet scrawny. No rheumatism, pain
all gone. It is six weeks to-day since operation. Perineum and
rectum all well ; still no rheumatism. Patient thin, but good color,
and improving daily.

To cure rheumatism, remove the cause ; start the circulation.

The Functions of the Stomach in Carcinoma of the Œsophagus.

Mintz (*Wien. med. Wochenschrift*, January 16th, 1896) states that
till recently the dictum of Ewald was generally accepted that in
malignant disease of the œsophagus the stomach ceased to secrete acid
and the gastric juice lost its peptic properties. Riegel and Boas have,
however, published cases in which, under these circumstances, the
gastric secretion remained normal, and this has induced Mintz to
reinvestigate the subject. He cites 3 cases. In the first, a woman,
aged 42, he diagnosed ulcer of the œsophagus on account of the age
of the patient, the absence of cachexia, and the presence of pain in the
region of the cardiac orifice of the stomach, together with the normal
condition of the gastric juice. No operation was done, and the patient
died a few months later, undoubtedly of cancer of the œsophagus. In
the second case, the gastric contents were examined through a gastro-
stomy fistula, the diagnosis of malignant disease being definite. Pep-
tic power was normal, and the secretion was superacid ; this was due
to combined HCl and not to the free acid, which was absent. The
third case was that of a woman, aged 36, in whom the diagnosis was
not made without some difficulty. Eventually gastrostomy was per-
formed, and the patient survived a year, dying suddenly as the result
of a profuse hæmatemesis. The chemical examination showed that
the œsophagus above the stricture, which has become impermeable,
was dilated, and at the time of examination contained 30 c.cm. of
malodorous alkaline fluid in which were pus corpuscles and flattened
epithelial cells. The stomach was at the time empty, but the admini-
stration of various test foods demonstrated that both its chemical and
motor functions were perfectly normal.—*Brit. Med. Jour.*, May 30th.

Cerebral Exercise.

Frenkel (*Sem. Méd.*, April 24th, 1896), describes a method of treat-
ing certain motor disturbances such as paralysis agitans, Sydenham's
chorea, convulsive tic and aphasia, by subjecting the muscles affected

to a process of re-education by means of a series of graduated systematic exercises. A reflex influence is thus exerted on the nerve centres presiding over these movements. Care must be taken to ascertain the manner of the manifestation of the ataxy, the peculiarities of its extension, and degree of intensity. The exercises are at first very simple, and are afterwards replaced by more complicated ones according to the nature and progress of the case. The muscles of the trunk play an important part in locomotion and must not be overlooked. Results vary, but are sometimes remarkably good. A case is quoted in which a patient had been seven years bedridden who now walks well with no signs of ataxia. Improvement is found to be limited to the movements directly affected by the exercises, and can only be explained by the assumption of a favourable influence exerted by the treatment upon the functions of the brain. For instance, in paralysis agitans the cause of the disturbance is generally thought to be in the central nervous system; the cerebral symptoms are, however, probably reflex, and the affection really of peripheral origin. The patient is made to endeavour to contract the affected muscles during one or several sittings daily. The muscular rigidity gradually disappears, and patients, who have been for years unable to move, acquire power to walk and move the head and even to write. In chorea, patients are required to execute the same movements which result in the choreic spasms, endeavouring to transform involuntary into voluntary movements. Considerable improvement has been effected in cases of convulsive tic by the same method. It is obvious that the treatment is only useful when the subcortical or spinal organs of transmission are intact. Myolitis, multiple sclerosis, or spasmodic paraplegia receive no benefit from it.—*Brit. Med. Jour.*, May 30, 1896.

A Case of Unusual Laryngeal Growth.

At the last annual meeting of the American Laryngological Association held at Pittsburg in May last, Dr. J. W. Gleitsmann of New York described the case of a Russian Jew, aged 38, who had complained for a year of hoarseness. He had no cough, dyspnea, emaciation, pain or glandular enlargement. The right half of the larynx, from the anterior commissure to the arytenoid cartilage, was occupied by a mass slightly corrugated and with irregular edges apparently between the true and false cord and looking like a bunch of white cotton tucked into the ventricle. Laryngeal movements, including abduction, were apparently normal. The rest of the larynx presented nothing worthy of note.

A bit of the tumor was excised with a Landgraf double curette, but proved to be too superficial a cut for satisfactory examination. No bleeding or noteworthy reaction followed the operation. The latter was repeated in two weeks, and about one-quarter of the mass excised. An examination of the fragment was made, and it was regarded as a hard papilloma, probably malignant and possibly carcinomatous. There was a papillary proliferation of the mucosa, with a thickened epithelial covering, the outer portion of the latter being apparently horny. The underlying epithelia were proliferated and the nuclei split up. A

small-celled infiltration of the submucosa was noticed, and the epithelial layer showed a tendency to invade the subepithelial tissue as in carcinoma.

The individual tubules or ducts, also, of the marginal glands, instead of appearing separate and distinct, were so affected that the cylindrical epithelium appeared to merge from one duct into another.

Dr. Gleitsmann had found no reference in literature to laryngeal growths of such a distinctly white color. Frankel had insisted that cancer of the cords in its incipency frequently presented a condition of whiteness instead of one of hyperemia or inflammation. An unusually snow-white color or grass-like appearance strongly pointed in the direction of malignancy.—*American Medico-Surgical Bulletin*, May 23rd, 1896.

Tumors of the Groin simulating Incarcerated Hernia.

We are indebted to the *Hahnemannian Monthly* (May 1896) for the following abstract of an interesting contribution of Dr. Behr to the *Il Progresso Medico* on the above subject:—The number of conditions which may closely simulate an incarcerated inguinal hernia, and which often give rise to much perplexity are— hæmatoma of the spermatic cord, or of the vulva, rotation of testicle on its axis, suppuration in an old hernial sac, inflammation of an undescended testicle, acute hydrocele of the cord, and acute non-suppurating adenitis.

Hæmatoma of the spermatic cord in men is far from rare, and is always due to direct traumatism to the groin; sometimes, even after cough or an effort, it may occur. In women, in the last months of pregnancy an acute hæmatoma of the vulva may appear. Ecchymosis of the skin is here characteristic, though it may be absent if from direct trauma. Though if it set in suddenly, and be accompanied by vomiting, the latter is not persistent, obstinate, or continuous, and the tumor is not tympanitic on percussion. Axial rotation of the testicle greatly resembles an incarcerated hernia, but the percussion sound is not tympanitic. The vomiting may even be stercoraceous.

Suppuration of an old hernial sac will not give an expansive impulse on coughing; the tumor is dull on percussion, œdematous, red, and very tense to the touch.

Inflammation of an undescended testicle is sometimes met with in young subjects, especially from trauma or gonorrhœa, and the symptoms may simulate an incarcerated hernia. The pain is very violent, and more intense than in hernia; the tumor does not give an impulse on coughing; the percussion sound is dull, and the abdomen is not distended; the absence of one testicle will clear up the diagnosis.

Acute hydrocele of the cord is a rare disease, and beyond vomiting and obstinate constipation, the other symptoms are but little characteristic of hernia. The dullness to percussion and the feel of liquid on palpation are differential signs.

Acute, non-suppurative adenitis may be very difficult of diagnosis, especially where signs of local irritation are lacking. The writer observed a case in a child of six months (male), where a globular

tumor rapidly formed, in two days, in the right femoral region, but without the overlying skin becoming red or irritated. The tumor was tense, hard and irreducible, with no stool for two days. A diagnosis of incarcerated hernia being made, an operation revealed the swelling to be an inflamed gland situated above the saphenous opening.

Statistics on Weight of Infants, Sex and Foetal Heart-rate.

Statistics of large numbers of cases are often useful to correct erroneous impressions on statistics from small numbers. A paper read before the Obstetrical Society of Boston on Feb. 18th of this year is interesting and valuable from this point of view as showing the results obtained from observations in a large number of infants as regards weight, sex and foetal heart-rate. Thus the assertion is often found in text-books that the foetal heart-rate of girls is more rapid than that of boys. It appears to depend on the statement made in 1859 by Frankenhauser that the average foetal rate in boys was 124, in girls 144, and this he obtained as a result of fifty observations. It is no wonder that predictions of sex based on such a small foundation should be disappointing. Taking a thousand cases at full term at the Boston Lying-in Hospital, the average rate of the foetal heart was as follows : 500 males, 140·26 per minute ; 500 females. 141·83. This difference of one and a half beats is, of course, valueless for prophetic purposes. Let us hope that Frankenhauser's statement will no longer be copied into the text-books. The average weight of these 1000 full-term infants was as follows : 500 male infants, 7lb. 8·9 oz. ; 500 female infants, 7lb. 5·1oz. It might be said that the slightly slower heart-rate in the boys depended on the slightly heavier weight of the male sex. It is interesting to note, however, that some of the very heavy babies had rapid hearts, and *vice versa* ; so that no individual prediction of the weight of the child could be made by the heart-beat. The variation in the rate of the heart-beat at different periods in the labour is also a commonly observed fact. Of 7515 deliveries at the Boston Lying-in Hospital, the heaviest child was a female weighing 12lb. The infants were all carefully weighed, and the actual weight without clothing was obtained. The following table shows the number of heavy children over 10lb. in weight born at the hospital :—

			Male.	Female.
10 to 11lb.	...	...	46.....	25
11 to 12lb.	...	...	10.....	5
12lb.	...	...	—.....	1
			<hr/>	<hr/>
			56	31
Total...	...	...	...	87

The records of the out-patient department were not considered sufficiently reliable to examine for this purpose. The largest infant, however, in which the record could be trusted weighed nearly 13lb. This child was carefully weighed in scales that had been tested.—*Lancet*, June 6, 1896.

Bryonia Acrostic.

The following abstract from Dr. A. L. Monroe's lecture appeared in the *Southern Journal of Homœopathy*, April 1896.

- B. Bilious conditions ; choleric people.
- B. Bronchitis, bursting, splitting headache.
- R. Rhus, compare. Repercussed eruptions (Hyos., stram., sulph.)
- R. Remittent fevers. (Gels., ars.)
- Y. Yellow, dry tongue—or white tongue.
- O. Ophthalmia, occipital headache, (nux., pet., carbo veg., apis).
- N. Neuralgia of
- I. Intercostals (cimicifuga, ran. bulbosus.)
- I. Inflammation of serous and synovial membranes.
- A. Apis compare, aconite like pulse.
- A. Asthenic fever. Angry from slight cause (cham.)
- A. Aggravation from motion—headache.
- A. Asthenic inflammation.
- L. Large draughts relieve (nat. mur.)
- L. Liver inflamed ; sore to touch.
- B. Bursting headache.
- A. After effusion. After suppressed perspiration.
- A. After motion—worse.

NOTES.

Bryonia patient is compact, well muscled, close fibred, brunette. Bry. is useful in sthenic and asthenic diseases. Affects serous membranes chiefly, then muscular tissue. Synovial membranes around joints frequently call for bryonia. Bryonia is homœopathic to the stitching pains of serous membranes and also to the dull aching, tearing pains of muscles, especially when the body of muscle is affected.

The drug is indicated in bursting, splitting headaches, preferably in the occiput, accompanied by soreness in the eyes, which feel like they would be punched from their socket when moved.

Mucous membranes dry and the thirst is for large quantities, at long intervals. The tongue is coated white. Nausea from the least motion. Patient calling for bryonia is better from lying on the affected side. The liver is inflamed and sore to touch.

Bryonia patient is worse after effusion and suppressed perspiration. The typhoid condition calling for this drug is one of torpor. The drug is especially suitable to the malarial fevers of the South—the so-called typho-malarial fevers. The analogues in this connection are ars, gels., rhus., and baptisia.

Bryonia is often indicated in bronchitis of old people, and in bronchopneumonia of children, or capillary bronchitis.

Bryonia is an excellent remedy in bilious troubles or acute hepatitis, where the patient is better from lying on right side. In gastric troubles coming from drinking ice water, or eating ice-cream, the drug may be useful.

This drug is called the "negro specific" from the fact that their troubles so frequently come from suppressed perspiration.

In constipation, where the stool is hard and dry, as if burnt, our drug has often relieved and cured.

Bryonia frequently finishes the work that aconite and belladonna

failed in, the inflammation then being subacute, which is so suitable to the drug's action.

Four points to remember about bryonia are : (1) the splitting headache, (2) dry mucous membranes, (3) stitching pains, and (4) the fever.

The Isolation and Incubation Periods of Infectious Diseases.

Disease.	Isolation required after patient has suffered from the diseases named in column 1.	Isolation required after healthy person has been exposed to the disease. Also incubation period.
Asiatic Cholera ...	Seven days from complete cessation of diarrhoea.	10 days.
Chicken-pox... ..	When every scab has fallen off.	18 days.
Diphtheria	After not less than three weeks convalescence is completed, there being no longer any form of sore-throat or any kind of discharge from the throat, eyes, nose, ears, &c., and no albuminuria.	12 days.
Enteric or Typhoid fever.	One week after temperature has become normal, and all bowel symptoms have disappeared.	23 days.
German Measles (Rotheln) & Epidemic Roseola. ...	Two to three weeks from the date of the appearance of the rash, the exact time depending on the nature of the attack.	18 days.
Influenza	Three days after the temperature has become normal, and all catarrhal discharges have ceased.	5 days.
Measles... ..	Not less than three weeks from the date of the rash if all desquamation and cough have ceased.	16 days.
Mumps... ..	Three to four weeks from the commencement, allowing one clear week from the subsidence of all swelling.	25 days.
Ringworm	When a medical examination of the whole scalp (any suspicious spots being scrutinised with a lens) reveals no broken-off stumpy hairs.	
Scarlet fever... ..	Not less than six weeks from the date of the rash, if desquamation have completely ceased, and there be no appearance of sore throat, and no discharge from the ears, nose, &c.	14 days.
Small-pox	When every scab has fallen off.	18 days.
Typhus... ..	Ten days after the temperature has become normal throughout the twenty-four hours.	14 days.
Whooping cough...	One week after the complete cessation of the characteristic spasmodic cough.	21 days.

CLINICAL RECORD.

Cases of Cholera.

BY DR. MAHENDRA LAL SIRCAR, M.D.

Case 1. Hem Chandra Datta, aged 16, was attacked with diarrhoea on the morning of the 3rd June. The diarrhoea assumed the choleraic form in the afternoon. Was treated by an old school practitioner till 1 o'clock after midnight, when collapse setting in a homœopathic practitioner was called in, who gave him *Ver. alb.* 6 and *Cup. Acet.* 6 in alternation every half an hour. The report is, the vomiting stopped at 4 a.m., and the cramps became less.

I saw him in the morning (at 7 a. m.) of June 4th. The pulse was barely perceptible at the wrist. Was complaining of severe cramps at the side of the chest and a peculiar sensation at the middle of the sternum which he said made his breathing difficult and uneasy. I learnt from the attending homœopathic practitioner, Babu Kunja Lal Mullick, a graduate of the Campbell Medical School, who was treating him, that he had given him a short time before *Secale 3x*, which he thought has somewhat reduced the cramps.

On inquiring of the patient I learnt that the stools he has been passing were all along hot. This symptom, with the fact that the diarrhoea had begun in the early morning, induced me to order a dose of *Sulph.* 12x. After this the choleraic symptoms became considerably modified. The stools from rice-water became yellowish, though still watery. The body became warm and the pulse perceptible at the wrist. The cramps ceased altogether.

5th June, 7 a.m. Sour vomiting. Stool yellowish. Burning sensation all over body. Abdomen painful to touch. No urine. *Ars.* 30.

8 p.m. Patient restless and delirious; delirium of a furious character; eyes red. *Stram.* 6x. One dose was given at 10 p.m., another at 2 a.m. After the second dose patient slept quietly for 4 hours.

6th June. Morning. Has passed several yellowish stools with a few drops of urine with each stool. Patient continues low. *Stram.* 6x at 8 a.m. Slept quietly for 4 hours up to noon. The sleep was so deep, that the patient's father thought we had given him a sleeping draught. 7th. Several stools with a few drops of urine at each stool.

At 3 p. m. made water about a poah (8 ounces). Patient low and drowsy. *Opium* 6, one dose. Slept well for 4 hours in the night.

8th. Stool and urine as yesterday, that is, frequent and scanty. Patient complains of great weakness and burning sensation all over the body; desires cold drinks, such as lemonade, cocoanut milk, &c. *Ac. Phos.* 6x, one dose at 7 p.m., and another at 11 p.m. Diet, milk and barley. Slept well at night.

9th. Patient remarkably better. Complained of hunger for the first time and asked for food. Diet, boiled rice and fish broth. After this, stools became healthy and the urine free. No med.

10th. In the afternoon there was slight rise of temperature which was 99.4. Diet, milk only. No med.

11th. Eruptions (miliary) appeared all over the body. Temp. at

4-30 p.m. 99.4. As the old school doctor had given Calomel, I ordered *Sulph.* 30, one dose.

12th. Eruptions the same. Temp. at 4-30 p.m. 99; less than yesterday. One more dose of *Sulph.* 30. Diet, wheaten hand-made bread.

13th. No more rise of temp. But eruptions just the same. *Puls.* 6, two doses.

14th. Eruptions better. Cont. *Puls.* 6.

He was all right in the course of a few days.

Remarks.

In this, as in many similar cases, in which the stools are hot and commence early in the morning, the beneficial effects of *Sulphur* in changing the aspect of the disease were well seen. But it could not complete the cure, though in many other cases a single dose proves curative. *Arsenic* was evidently useless, as it very often has been in the present epidemic. *Stramonium*, though it wonderfully controlled the furious delirium, had to be supplemented by *Opium* in order to overcome the drowsiness, which continued in spite of the free secretion of urine. The extreme prostration, which threatened to terminate life, in spite of improvement in the other symptoms, was successfully combated by *Phosphoric Acid*.

Case 2. Upendra Nath Datta, aged 24, in the same house with the patient mentioned above, and in fact a relation of his, was attacked with the disease on the 31st May. He began to have loose stools at noon, which became rice-water like at 5 p.m.

I was consulted about him on the same day that I visited the other patient, namely, on the 4th June. He was being attended by the same homœopathic practitioner, Babu Kunja Lal Mullick. From him I got the following report of the previous days' progress of the case and its treatment:—

"31st May. 8 p.m. Stools rice-water like, copious; body cold, perspiring copiously. Thirst unappeasing. Stomach rejects every thing, even iced water. Pulse not perceptible at the wrist. Eyes sunk in their sockets. Voice husky. Cramps in the lower extremities. *Ver. alb.* 6 and *Cup. acet.* 6 in alternation.

"1st June, 8 a.m. Deep collapse. *Aco.* 1x, 2 doses at intervals of 4 hours. Urine continues suppressed. Intense thirst. Burning sensation all over body. *Ars.* 30, one dose at 2 p.m., and another at 6 p.m.

"7 p.m. Pulse perceptible at the wrist. Body slightly warm. Urine still suppressed. *Canth.* 6, one dose, at 9 p.m., and a second at 1 a.m.

"2nd. Stool yellowish, being passed every hour, and about an ounce each time. Eyes congested, no urine yet. Pulse perceptible. *Bell.* 30 every 4 hours, two doses only to be given. Plenty of cold water to drink, and cold water to be applied to the head. 3 a.m. Urine about one chittack (2 ounces) was passed.

"3rd. Morning. Stool thicker, but no more urine. *Sulph.* 6, one dose at 8 a.m. Patient was drowsy the whole day, eyes red, respiration hurried. *Canth.* 30, one dose at 6 p.m., another at 9 p.m. 11 a.m. Patient delirious. *Hyosc.* 6, 2 doses at intervals of 4 hours.

"4th. Morning. Stool the same, eyes deeply congested. Urine still suppressed. Patient unconscious, but very restless, wishes to sit up, and talking nonsense."

I was consulted at about 8 a.m., and suggested *Agar. musc.* 6. Two doses were given at intervals of 4 hours. 6 p.m. Pulse full and bounding. Very restless and furious, screams loudly. *Stram.* 6, one dose at 10 p.m., and another at 2 a.m. After the second dose patient slept quietly for 4 hours.

5th. 7 a.m. Abdomen slightly distended. I ordered a few globules saturated with tincture of *Camphor* to be given occasionally.

Evening. Patient again delirious, eyes congested, sordes on the teeth, urine suppressed, difficulty of breathing, taking at intervals of about 5 minutes a deep and long breath. *Apis.* 6, one dose at 10 p.m. Urine, an hour after the dose of *Apis*, about 1 poah (8 ounces), again at 3 a. m. the same quantity. Slept quietly.

6th. No stool, but urine three times, about $\frac{1}{2}$ poah (4 ounces) each time. Patient continues very low, drowsy, not answering when called. *Opium* 6, one dose.

7th. No stool. Urine 5 times. Not so low, drowsiness less. Diet, milk and barley.

Evening. Temperature rose to 100. Again very low; tip of tongue dry. *Opium* 6, one dose.

8th. No stool. Bed sores over the sacrum. Urine free. *Nux v.* 6, one drop. Diet, milk and barley.

Evening. Temp. rose to 100. Patient continues very weak. Eyes same as before.

9th. No stool for 90 hours. Urging to stool, but ineffectual. Feels very uneasy on account of costiveness; says he must have stool, or he would not be well. Ordered *Glycerine* 1 drachm to be injected through the anus. One healthy and formed stool almost immediately. Another similar stool 3 hours after.

10. No stool. Urine free. Temp. at 5 p.m. 99.4. Ulceration of both corneæ at the lower margins. No medicine. Diet, milk and vegetable soup.

11th. Just the same. *Puls.* 6 one dose. Had one healthy st. after it.

12th. Ulceration of corneæ increasing. *Sil.* 12, two doses every 6 hours.

13th. Patient left for his native village in the morning.

We have since heard of his complete recovery.

Remarks.

In this case the urine, which appeared to have been brought about by *Belladonna*, became again suppressed. *Agaricus*, notwithstanding some symptoms which pointed to it, failed to produce any effect. *Stramonium* did succeed in controlling the delirium, but failing to act upon the kidneys, the improvement was not permanent. *Apis* well succeeded in stimulating the kidneys to action after the failure of several remedies, such as *Canth.*, *Bell.*, *Hyosc.*, *Stram.*, but notwithstanding the free secretion of urine, the drowsiness deepened and had to be removed by *Opium*. For the obstinate constipation we had to inject *Glycerine* which acted well upon the rectum and produced healthy stools.

THERAPEUTICS OF CONSTIPATION, DIARRHOEA, DYSENTERY, AND CHOLERA.

132. KALI CARBONICUM.

Constipation :

1. Hard scanty st., in morning, afterwards soft st. in forenoon.
2. C. during menses. 3. C. with painful drawing in abdomen.
4. Hard st., every other day. Hard st., with uneasiness in abd.
5. Pieces of tapeworm passed with solid st.
6. Insufficient st., most of it remains behind. Insufficient st. after much pressure.
7. Tenacious st., as though he was unable to loosen it.
8. St. like sheep-dung, passed with pain and exertion.
9. Urgent desire as in D., though st. was hard, with colic.
10. Frequent urging to st., it seems as though he could not pass every thing at once.
11. Frequent urging to st., with passage of very little.
12. Much urging to st., something always passed.
13. Frequent excessive urging to st., by paroxysms, with passage of small natural st. or only sometimes flatulence.
14. Emission of flatulence difficult and impeded with unsatisfactory st.

Diarrhoea :

1. D. with intolerable pain in abd., which lasts following day.
2. D. every night from 3 to 4 o'clock ; or day and night.
3. D. without pain, with rumbling in bowels.
4. D. with griping low down in abdomen preceding and following.
5. D. with great weariness, lying down, loss of appetite and daily colic ; fæces light-colored and gray.
6. D. with biting pain in anus.
7. D. with griping in abdomen preceding it, and followed by burning in rectum. 8. Scanty otherwise natural sts.
9. Two liquid sts. preceded by rumbling in bowels.
10. Semi-liquid st. (scanty), pain in bowels, followed by tenesmus.
11. Thin st., with griping and uneasiness in abdomen.
12. Unnoticed thin st., on emission of flatulence.
13. Soft st., followed by burning in anus.
14. Copious brown st. 15. Very offensive st.
16. Tenacious, soft, dark-colored st.
17. Distension, dragging asunder, and griping in abdomen, followed by soft st.
18. Griping in abdomen, in morning in bed, preceded by chilliness with urging to soft st.
19. Griping in bowels, with usual st., followed by constant urging when liquid st. followed.

Dysentery :

1. Blood with st., for several days.
2. St., colored with blood, followed by anxiety and dyspnoea.
3. White mucus discharged from anus before and during st.

Aggravation :

1. Morning (3 to 4). 2. Night. 3. Day and night. 4. After milk.

Before St :

1. Gripping low in abdomen. 2. Rumbling in bowels.
3. Colic. 4. Urging. 5. Stich-like crawling in anus.

During St :

1. Pain in abdomen. 2. Rumbling in bowels.
3. Biting pain in anus. 4. Colic. 5. Pain and exertion.
6. Hæmorrhoids swell and protrude with hard st.
7. Protrusion of hæmorrhoids during a diarrhœa-like st., with needle-like stitches and burning in them.
8. Discharge of blood from swollen hæmorrhoids, with natural st.
9. Burning in anus.
10. Biting sore pain in and around anus after morning st.
11. Painful dragging towards groins.
12. Sudden sticking in left inguinal region.

After St :

1. Gripping low in abdomen. 2. Burning in rectum.
3. Tenesmus. 4. Anxiety and dyspnœa.
5. Shivering in anus after st. 6. Constant burning in anus.

Rectum and Anus :

1. Large painful hæmorrhoids in anus and profuse bleeding from them, while urinating.
2. Hæmorrhoids protrude while urinating and discharge at first blood, and on next day white mucus.
3. Inflammation of hæmorrhoids.
4. Profuse discharge of blood from rectum followed by uneasiness in blood and pulsation in whole body.
5. Pimples in anus. 6. During cough pain in hæmorrhoids.
7. Tenesmus in rectum and anus.
8. Burning and gripping in rectum. Burning in anus without urging. Burning prevented sleep. Burning and contraction in anus. Burning about anus, hæmorrhoids, with severe pain while walking. Burning cutting in anus.
9. Pain in anus as if it would burst, after vomiting, can scarcely endure it.
10. Pinching and violent constrictive sensation in anus, epigastric region, and extending to throat.
11. Twinging in anus.
12. Stitches in rectum and anus as from needles. Stitches in anus when not at stool. Stitches in hæmorrhoids.
13. Sticking tearing and cutting in anus.
14. Soreness in anus. 15. Sore pain in hæmorrhoids.
16. Smarting in anus. 17. Crawling in anus.
18. Crawling in hæmorrhoids as from worms.
19. Itching in anus and scrotum.
20. Frequent urging to st., disappearing after passing of flatulence.
21. Ineffectual urging to st., with feeling as if rectum were too weak to evacuate it. 22. Round worm passed with st.
23. Pieces of tapeworm passed with solid stool.

General Symptoms?

1. Delirium. Dread of being alone. Weeping mood. Anxiety.

Fearful and anxious about her disease. Tearful. Irritable, peevish mood. Sensation at times as if her thoughts and memory were gone.

2. Confusion of head. Vertigo on turning round; especially after eating. Constant sensation in head as though something in it were loose, and turned and twisted towards forehead. Headache in morning; during menses with heaviness. Rush of blood to head and intoxication therefrom. Pressive headache. Pressive and drawing tearing in forehead extending into eyes and root of nose. Pressure in forehead with photophobia. Headache, relieved by sitting up, aggravated by lying down. Dryness of hair. Falling of hair.
3. Redness of white of eye, with many vessels in it. Burning and biting in eyes. Pressure in eyes. Swelling between eyebrows and lids, like a sac. Lachrymation. Photophobia. Weakness of vision.
4. Boil in ear. Discharge of thin yellow wax or pus from ear. Tearing in ears. Roaring, ringing, singing in ears.
5. Nose thick and red. Scurfy nostrils. Stoppage of nose. Fluent coryza. Bleeding of nose.
6. Sickly color of face, with pale lips. Burning in lips. Cramp-like sensation in lips.
7. Offensive odor from teeth. Toothache only when eating. Tongue dry, white. Blisters in mouth with burning. Much saliva constantly in mouth. Foul, bitter, sore taste. Taste of blood.
8. Mucus in back of throat. Throat rough, with cough. Crawling which provokes hawking and coughing. Sticking pain in pharynx, as if there were a fishbone in it, if he becomes cold. Difficult swallowing, food descends slowly. Swelling of cervical glands.
9. Great hunger. Longing for acids. Averse to food, especially to meat though it tastes good. Thirst. Frequent eructation in morning. Uprisings of food and acids following great uneasiness starting from pit of stomach. Waterbrash. Heartburn.
10. Nausea as if to faintness, only disappearing when lying down. Nauseated very easily, especially after a meal. Nauseated on every inward motion. Qualmishness. Retching. Vomiting of food and acids.
11. Rumbling, gurgling and moving in stomach as from flatulence or as to diarrhœa. Burning acidity rising from stomach with spasmodic constriction. Fullness and pressure in epigastric region. During menses great fullness and nausea after eating, soon followed by vomiting.
12. Constant feeling as if stomach were full of water. Cramp in stomach. Swollen feeling about whole epigastric region. Digging in stomach. Pressure after eating, extending up into chest with want of breath, nausea, prostration, and vomiting of bitter water with relief. A feeling in stomach as

- if cut to pieces with great sensitiveness of epigastric region externally, in morning. Throbbing in pit of stomach, like violent palpitation of heart, whereby pit rises visibly. Milk does not agree.
13. Feeling of heat and burning pain in hepatic region. Pain in liver while walking. Slight cutting about umbilicus frequently. Cutting pain in left side of upper abdomen, extending from lower portion of left chest, where there is sticking at the same time. Hard distension of abdomen with painfulness of umbilical region to touch. Distended abdomen after eating. Incarcerated flatulence. Discharge of much flatulence.
 14. Feeling of coldness in abdomen, as if cold fluid passed through intestines (during menses.) Fulness, heat, and great distension in abdomen, immediately after eating little. During menses cutting in abdomen. Cutting in intestines, violent pain, in order to relieve it he is obliged to sit bent over, pressing with both hands, or to lean far back; he cannot sit upright. Frequent cutting in abdomen as before diarrhoea. Abdominal muscles are painful to touch.
 15. Throbbing in abdomen. Feeling of tension of lower abdomen and sensation of heaviness in it, while sitting and walking. Stitches in lower abdomen.
 16. Discharge of milky, odorless, flocculent fluid (prostrate fluid) after urinating. Burning in urethra while urinating. Great desire to urinate. Obligated to urinate frequently but there is often pressure upon bladder long time before urine comes; even at night he is obliged to rise several times, on account of it, though he drinks but little.
 17. Urine, pale scanty, pale greenish; dark yellow with cloud; fiery, diminished; increased secretion; turbid; like mealy water, much sediment on standing. Urea decreased from 30 grammes to 25 (20 per cent.)
 18. Very great sexual desire. Emissions followed by great weakness. Great soreness about genitals before, during and after menses.
 19. Easy choking when eating, because some food gets into larynx. Complete hoarseness. Begins to cough as early as 3 a.m., repeated every half hour. Cough that affects chest, caused by tickling in throat. Felt as if there was no air in chest and could not breathe.
 20. Weakness of chest. Tension across chest on expiration while walking. Oppression of chest with deep moaning respiration. Cutting pain in chest, in evening after lying down, does not know how to lie; worse when lying on right side. Sticking pressure on left side of chest, on deep breathing.
 21. Frequent and violent palpitation with anxiety. Feels pulse over whole body, even to tips of toes.
 22. Stiffness of nape of the neck, in morning in bed. Bruised pain in back during rest, not during motion. During menses

- severe pressure in small of back and fore part of lower abd. as if every thing would push out at genitals. Tearing in lumbar muscles impeding respiration.
23. Great uneasiness in limbs, in evening in bed, so that no place was found where she could lie easily. Weakness and loss of power in both arms. Swelling of axillary glands. The lower extremities frequently fell asleep. Cramp in right thigh and calf. Jerkings in muscles of thigh.
 24. Frequent exhaustion and weariness. Very much inclined to take cold. Heaviness especially of feet, walking becomes irksome. Sticking is most characteristic pain of Kali. Pains recur in morning at 2 or 3 o'clock so that he is unable to remain lying and are worse than during day while moving about.
 25. Great sleepiness during day ; sleeps while sitting. After eating great sleepiness with chilliness and yawning. Starting in sleep. Restless sleep. Wakes in morning about 1 or 2 o'clock and cannot sleep again from wakefulness. Talking in sleep. Dream of robbers, dead persons, serpents, disease and death.

Remarks : KALI CARB. has scarcely been used in our school for bowel complaints as such, but it may be used with benefit in both constipation and diarrhœa whether they exist as independent diseases, or as secondary symptoms of other diseases. Hahnemann's experience did not go beyond constipation, under which he enumerated "difficult evacuation of fœces on account of their large formation ; constipation every other day," as symptoms for the predominance or presence of which KALI CARB. has been most useful. But it is likely to be equally useful in diarrhœa when it is accompanied by intolerable pain in the abdomen which continues long after stool ; when the stools occur chiefly from 3 to 4 in the morning ; when the stools are very offensive, and may be either light colored and gray, or brown, or dark-colored ; when the stools are passed unnoticed on emission of flatulence. KALI C. has not produced dysentery properly so called, for blood with stool and mucus before and after stool cannot be interpreted as symptoms of this disease. KALI C., however, is likely to be useful in the not very rare condition in which stools (especially hard ones) are accompanied with bleeding from the anus, or are preceded and followed by discharge of mucus.

Dr. Bell thinks "KALI C. is only useful in chronic cases, with the peculiar cachexia revealed by the puffiness under the eyebrow." It may be more useful in chronic cases, but the symptoms corresponding we do not see any reason why it may not be useful in acute cases also. The puffiness or the sac-like swelling between the eyebrows and the lids is not necessarily a symptom of a chronic morbid condition, nor would the absence of this symptom be a contra-indication for KALI C., if it covers other symptoms.

Under KALI C. both the round and the tape worm have passed with stools. Clinical experience can alone show whether this was an accidental coincidence ; or a genuine pathogenetic symptom.

Gleanings from Contemporary Literature.

GLAUCOMA.

By WILLIAM SPENCER, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of the County of Philadelphia.)

This subject has been selected, not with the intention of offering anything new in the ætiology, pathology or treatment, but because I feel that this disease is so disastrous and the damage so irreparable that the symptoms and a picture of it should be familiar to all of us.

Glaucoma is not a new disease; the inflammatory variety has been known from antiquity. The non-inflammatory having no external changes, can only be diagnosticated by making an ophthalmoscopic examination, and therefore must date from or after the discovery and use of the ophthalmoscope. The essence of glaucoma lies in the increase in the intraocular pressure, from which all the other essential symptoms can be deduced.

The first to recognize the increase in tension as the most important symptom was Mackenzie, in 1830; later, Von Graefe.

The ophthalmoscope, discovered by Helmholtz in 1851, opened up a new method of examination. Heretofore, the exact pathological changes were not accurately known. The inflammatory variety was regarded as having connection with gout, and was hence called ophthalmia arthritica. The blindness of the non-inflammatory variety has been "lumped" together with other kinds of blindness under the common name of that almost obsolete word, amaurosis. Heinrich Müller, in 1856, demonstrated anatomically the pressure excavation of the optic nerve. Soon afterwards, Weber and Förster diagnosticated it accurately in the ophthalmoscopic picture.

The following subdivisions of the disease are recognized: primary or secondary. The primary may be with inflammation. This may be acute subacute and chronic, or "an advanced stage of the non-inflammatory," hæmorrhagic and fulminans. By the secondary is meant increased tension consecutive to some other disease.

Glaucoma sets in with varying symptoms. If the pressure rises suddenly to a considerable height, inflammatory symptoms are excited, and we have to deal with an acute or inflammatory glaucoma. On the contrary, if the increase in tension comes on gradually and does not become intense, we have a non-inflammatory condition, or glaucoma simplex. I will speak of it as inflammatory and non-inflammatory, without going into the subdivisions.

Inflammatory glaucoma runs a typical course, especially in acute cases. I will quote Fuch in giving the different stages, with the leading symptoms.

First stage of prodromal.

Second stage—attack of acute glaucoma.

Third stage—that of glaucoma absolutum.

The prodromal stage, which in most cases precedes the inflammatory

attack, is characterized, first of all, by attacks of obscuration of vision ; complains of a cloud or smoke concealing objects from him ; lights are seen as if encircled with a ring, having the colors of the rainbow ; the eye feels tense, or there is a dull frontal headache ; on inspection, the cornea appears dull and clouded, like glass that has been breathed upon ; the anterior chamber somewhat shallower through advancement of the iris ; the pupil is dilated and reacts sluggishly ; the tension of the eye is increased ; frequently, too, slight ciliary injection is present.

Such an attack ordinarily lasts several hours, after which the eye returns to the normal condition, both as regards its appearance and as regards its function. The attacks at first make their appearance at long intervals (of months or weeks) ; later, they become more frequent. Often specific causes for their existence can be demonstrated, such as hearty meals, lateness in going to bed, causes of emotional excitement (card playing, etc.). If the attacks come on in the evening, they always cease when the patient falls asleep ; even in the daytime an attack may be cut short by his going to sleep.

In the interval between the prodromal attacks the sight is normal, but stronger and stronger glasses have to be employed for reading ; a rapid increase of presbyopia through diminution of the power of accommodation. The prodromal stage lasts only a few weeks, or may be protracted over months or even years. The eye acquires externally the glaucomatous aspect, and an excavation of the nerve forms in consequence of the oft-repeated increase of pressure. Consequently, the sight is no longer perfect.

The second stage of acute glaucoma, sets in suddenly, after the prodromal stage has lasted a longer or shorter time. The chief causes of an acute attack, are states of congestion of the venous system, especially those due to enfeeblement of the heart's action. Also mental emotions, particularly of a depressing character, and dilatation of the pupils. A drop of atropine in an eye which is predisposed to glaucoma may excite an attack. This danger, Dr. C. M. Thomas tries to guard against, by warning his students never to use atropine in an eye with a dilated pupil.

The symptoms of the acute attack are the same as those belonging to the prodromal attack, except that they are more pronounced and are accompanied by inflammatory phenomena (injection, oedema of the lids and conjunctiva, and pain). The pain is violent, radiating from the eye along the first and second branches of the trigeminus. The patient complains of pain in the head, the ears and the teeth. Simultaneously with the pain the visual power falls rapidly away, so that only large objects are seen.

The field of vision is contracted, mostly on the nasal side. The cornea has a pronounced smoky cloudiness and is almost or quite insensitive to touch. The tension is considerably elevated and remains permanently so. Ophthalmoscopic examination is impossible, on account of the marked cloudiness of the cornea.

When the cornea clears the examination shows at the optic nerve entrance the signs of the general hyperæmia. The excavation of the optic nerve is not present directly after the attack, because for its formation a long

period of increased tension is required. Cases which have had a long prodroma show it after an acute attack.

After some days or weeks there is a subsidence of the acute symptoms, and the patient gives himself up to the hope that he is permanently cured.

Then a new attack sets in. This, as far as inflammatory symptoms and pain are concerned, is usually less intense than the first, but results in a still further reduction of the sight.

These attacks follow each other at longer or shorter intervals ; the sight at length becomes entirely extinct.

The disease has then entered upon the third stage, that of *glaucoma absolutum*. The eye is completely blind, and presents the following picture. The distended anterior ciliary veins which unite around the cornea forming a bluish-red circle of dilated vessels. The cornea is shining and transparent, but insensitive ; the anterior chamber is very shallow.

The iris is reduced to a narrow gray marginal band, and the pupillary margin is encircled by a broad black border. The dilated and rigid pupil is greenish or of a dirty gray. The lens is cloudy (cataractous). The optic disk is deeply excavated and the eye is as hard as stone. Later on, degenerative changes make their appearance in the blinded eye ; the final outcome is usually atrophy of the eyeball. After the eye has been hard for years it at length becomes softer, small and atrophic. In other cases, abscess of the cornea develops with perforation and consecutive irido-cyclitis, or even panophthalmitis, together with phthisis bulbi. Not till the glaucomatous eye has become shrivelled does it allow its unfortunate possessor to have any lasting rest.

In the non-inflammatory or *glaucoma simplex* the increase of tension sets in very gradually. The eye looks quite normal externally, or it gives evidence of the lesion by the greater prominence of the distended anterior ciliary veins, and also through the dilated and sluggish pupil. The tension is slightly increased ; often this is not detected on first examination. Some cases of simple glaucoma in which the tension is never found distinctly increased. Not having any marked external symptoms, and sometimes, indeed, any manifest increase of tension, we are thrown back upon the ophthalmoscopic examination for the diagnosis.

Such an examination shows a total excavation of the optic nerve, the depth of which corresponds to the duration of the disease.

The subjective symptoms, since the inflammatory attacks and the pain are wanting, consist almost exclusively of the disturbance of vision. The field of vision is contracted, there is a diminution of central vision acuity. The latter develops late, when the field of vision has become very small, patients are still in condition to read, while they are scarcely able to go about alone. The reduction of vision takes place very slowly and gradually, so that the patient himself does not become aware of the existence of his disease until late.

Glaucoma simplex, not infrequently changes into inflammatory glaucoma. It always attacks both eyes, and sometimes occurs in young people in contradistinction to inflammatory glaucoma.

Inflammatory glaucoma almost always attacks both eyes. They are rarely affected at the same time. The disease in the second eye follows months or years after the first. It is a disease of advanced life, fiftieth to seventieth year, occurring in women more than men. In some cases heredity is distinctly influential. Hyperopic eyes are most frequently affected: about two-thirds of the whole, while myopia gives about one-fifth of the whole.

Neuralgia of the fifth nerve sometimes is a cause. Rigidity of the vessel walls (arterio-sclerosis), habitual constipation and premature cessation of the menses predispose to glaucoma. It occurs more frequently among the Jews than the Christians.

There are many theories advanced to explain the cause of the intraocular tension. Whether it is dependent upon either a hypersecretion or diminished absorption ought to be a question having considerable weight in the selection of our remedy if we expect to make a cure according to the law of *similia*. The secretion of the aqueous humor is almost wholly from the uveal tract (*i.e.*, iris, ciliary body and choroid). Absorption of the intraocular fluids takes place through the filtration passages in the sclera, near the border of the cornea (the lymph passages and canal of Schlemm). Any disturbance, therefore, in the equilibrium between secretion and absorption will of course cause a change in tension.

As causes of hypersecretion, we may mention irritation of the trigeminus nerve and serous inflammation of the uveal tract. Especially is this true if the secretion is more in the vitreous humor than in the aqueous, for the lens and iris are thereby advanced, thus narrowing the iritic angle and interfering with absorption. A predisposition to hindrance in absorption is found in unusual rigidity of the sclera, which may be more marked in one race than in another, or in one family than another, and it is always found in old age.

Also the filtration passages may be closed by any localized inflammation of the sclera or the iris, which 'causes' an adhesion of the periphery of the iris to the cornea or sclera.

Swelling of the ciliary processes will press forward the periphery of the iris. An increased diameter of the lens will narrow the space between the lens and the ciliary processes through which the nutrient fluids pass, by osmosis, from the vitreous to aqueous, and then out through the filtration passages. This would cause increased tension in the vitreous over the aqueous, thus causing an advance of the iris and lens. It therefore appears that there is no one cause for glaucoma, but that several elements enter into the etiology.

TREATMENT.

Glaucoma passed for an incurable disease until Von Graefe discovered the curative action of iridectomy. Other operations have been devised, such as sclerotomy, paracentesis ~~cornea~~, myotomy, etc., but none have been able to displace iridectomy. As regards the time for performing the operation, it is always best to operate as early as possible. In the prodromal stage some favorable results may be obtained from internal medication. By the use of the indicated remedy or the instillation into the eye of a

myotic (eserine or pilocarpine), an operation may be postponed. In an acute attack of glaucoma it is very difficult to decide how long we can safely delay operating, bearing in mind that a high degree of increased tension may permanently destroy vision within a few hours.

It is, therefore, not only unwise but reprehensible in any physician to delay the operation when there is danger of permanent injury to the eye.

The myotics, eserine and pilocarpine, are powerful agents in combating increase in tension. They act only when the iris is capable of contracting satisfactorily. Unfortunately, the effect of myotics upon ocular tension is not lasting ; therefore, they cannot cure glaucoma permanently, and thus dispense with iridectomy.

The other methods of medicinal treatment, which formerly were very numerous, are now obsolete—so say our friends of the dominant school ; but with us we have a number of remedies that have been tried and found most efficacious in relieving the severe neuralgic pains, as well as having a direct action in relieving the increased tension. We should think of acon., bell., cedron, colocyn., prunus spin. and spigelia for ciliary neuralgia ; cedron and bryon. for supraorbital neuralgia ; bryon. and gelsem. for hypersecretion ; phos., gels., kali iod. and sul. for clearing up media after the subsidence of an attack. Every case should have our careful study, and the remedy selected according to the totality of symptoms present.—*The Hahnemannian Monthly*, May 1896.

IS IT POSSIBLE TO FORMULATE A LAW OF DOSE?

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ONE of the reasons why there is so much difference of opinion as to the principles of medicine, is that few teachers of this subject have similar beliefs. In fact it is doubtful if some of our teachers have any well-defined views on the various subjects which may be embraced under the general term institutes.

One of the first stumbling blocks is the question of primary and secondary drug action; and it is of such importance that all our attention will be confined to its consideration in this paper. This is a problem the solution of which has been attempted by dozens of men, including Trinks, Kurtz, Schron, Gerstel, Hering and others besides Hahnemann, and, apparently, it still remains to be answered to the satisfaction of all. It is, however, very generally accepted that drugs have two actions, the first effects being exactly opposite to the second, or *vice versa*. But there are some who do not accept this view of the case, choosing rather to think that drugs do not act at all, but that they are acted upon by the organism, and that both, the so-called primary and secondary, effects are merely the opposite conditions of the organism; the first being the effort of the organism to reject, or protect itself against, the intruding foreign substance or influence, and the second being merely a relaxed or resting condition of the organism after its primary effort.

While this question is merely one of theory, yet it should be settled, for as long as it remains in this uncertain state, so long must it be acknowledged that we lack definite, fundamental knowledge of the phenomena of organic life which contribute to that general fund of information which goes to make up our understanding of a healthy organism *in toto* or a diseased organism *in toto*, respectively; from which must also be derived our ability to recognize the special kind of deviation from the normal, the particular pathological condition in the given case. In other words, so long as the question of whether drugs act on the organism or whether the organism acts on drugs remains undecided, just so long must we acknowledge our ignorance of the real significance of the vital manifestations of the human organism whether in health or in disease.

On the one hand, if we believe that drugs *act*, and that they produce primary and secondary action, whether we believe the first action to be due to the drug, whether we believe the second action to be due to the drug, or whether we believe both actions to be due to the drug, then we must also believe, to be consistent, that a drug is an organized entity, a kind of parasite or bacillus, something containing an individualized force within itself which makes it capable of action. On the other hand, if we believe that drugs do not act, but that they, by their presence cause the organism to act, we are confronted by the problem of whether the primary manifestation or the secondary manifestation are both evidence of

the *action* of the organism, or if both do not represent vital action which it is that may be regarded as the active response to the agency which has invaded the system.

Although, as I have said, we may be within the realm of pure theory in discussing such matters, yet upon theory very substantial actions and stupendous practical results are sometimes based; so in this instance, upon the settlement of this question of theory must depend a matter of some importance.

I do not think myself justified in insulting the intelligence of the homœopathic profession at this day of scientific progress, by even assuming that any member of the profession seriously entertains the idea that drugs *act*; I can not but believe we all agree that it is the organism which acts and not the drug. (It is of physiological, dynamic medicine I speak, and not of mechanics or chemistry.) Assuming this to be common ground upon which we can all stand, it remains for me to consider primary and secondary manifestations following drug administration, in relation to this action of the organism in which we all believe.

First, then, we too recognize the fact that so far as the subject has been studied the first set of symptoms, the first condition of the organism following the administration of a drug, is usually followed sooner or later by another set of symptoms, or a condition, which is exactly opposite to the first condition in its manifestations. I do not think any one will dispute this statement of a fact. Having noticed these diametrically opposite sets of symptoms, conditions of the organism, and at the same time believing these vital manifestations to be due to the force of the organism, it becomes necessary for us to consider whether or not both sets of manifestations, the primary and the secondary set, respectively, are equally due to activity of the organism.

The first fact to be considered is as follows: When a drug is given to the experimenter the result must depend to a certain extent upon the size of the dose, *i. e.*, the amount of drug substance administered. (The susceptibility of the individual to the given drug need not here be considered, for we speak of the average experimenter.) Let us take opium as an example. When a full dose of opium is given (say two grains), the effect is not the same as when the drug is given in fractional doses. In fact the sluggishness and stupor of the large dose is, when the small dose is administered, supplanted by a wide-awake alertness and vivid imagination; in fine, the large dose produces as a first effect, a depression, and the small dose produces as a first effect, a stimulation. When the dose is given, according to the theory I espouse, the organism at once attempts to expel, or protect itself in some manner against the intruder, and the symptoms produced are due to this effort. When this effort has been continued until the intruder has been expelled, or the organism has in some unknown manner overcome the harm due to its presence (or when the effort has continued as long as the vitality of the system is able to resist), then an opposite condition ensues, and the secondary "action" is in

progress. We acknowledge that during the first manifestation of disturbance the organism is in an active condition, a condition of resistance as it were, but we do not believe it is in a state of action, that is, of effort to act on the defensive during the secondary manifestation. We believe there is then a state of exhaustion of the particular organs or tissues which were engaged in the primary effort, and hence the condition manifest during what is usually considered the secondary action of a drug, is but an evidence that the system, or the special part involved, is in a state of passivity, is resting after its labors. This is clearly observable in the effects of purgatives, which cause catharsis but to be followed by the opposite condition of constipation; it may also be observed in the use of chalk mixture which will stop diarrhoeic discharges, but a reactionary diarrhoea will almost invariably follow. Another illustration is to be found in the result of powerful muscular contraction, which is always followed by a proportionate amount of muscular relaxation.

Again, the primary action of the drug sometimes recurs after the secondary effects have subsided; but this is simply, according to our view of the case, the organism again returning to active effort against the intruding drug, after it has had sufficient time to regain a certain amount of power of resistance. This secondary resistance is, as a rule, less violent than the primary resistance, because the system has either not regained its full resisting power or it has become to a certain extent tolerant of the presence of whatever of the drug still remains in the economy.

It is further apparent that the primary disturbance only should be regarded as including reliable data upon which to prescribe drugs, the secondary condition of the system being merely reactionary and passive, evidencing a lack of vital power. The amount of drug substance used in pathogenetic experiments, whether much or little, does not alter the principle here suggested.

According to this view of the question the complicated theory of primary and secondary *drug action* becomes quite cumbrous with its assertion that the organism acts in two diametrically opposite directions successively, and for the same purpose. The work and rest theory seems more plausible.

It may naturally be asked, Why, then, if this theory is correct, does the organism assume a given attitude, or make an effort in a given direction for the purpose of protecting itself against the drug under test, and when a smaller dose is given adopt an opposite attitude of resistance, so to speak, for the purpose of attaining the same end? Frankly, I do not know; but does inability to answer this question militate against a fact? Furthermore, does the old theory offer an explanation? I know of none.

I am not attempting to dogmatize; I am simply giving my view of this apparent primary and secondary action of drugs, and I may be entirely wrong in my conclusions, but the case presents itself to me as I have stated.

There is, however, an objection which is sometimes raised to the division of drug symptoms into these two earlier and later groups of apparently opposite effects; which objection is, that it is not possible to draw a distinct

line of demarcation between the so-called primary and the so-called secondary symptoms. Of course there is a border-land where the two groups merge more or less closely together, regardless of whether we accept the old idea or the new; and we are, therefore, driven to accept the extreme symptoms of the two groups as typical of the active state, respectively.

Of course the desire of all orderly minds is that this question be rendered clearer, that the symptoms appearing in this border-land of uncertainty be classified if possible, and that the exact line where the tidal wave of vital resistance turns be accurately defined. Is it possible to do this? No answer can be given until the experiment is tried, and this has never yet been done. It is one of the problems to be solved in the future, if its satisfactory solution is possible. Will it be done by the older school, will it be done by our own school, or will it be done at all?

It will not be done by the older school of medicine unless these gentlemen adopt the human-experimentation plan in use in our school, which is not likely, and it will never be done by the homœopathic school unless the methods of the past be improved. Aside from many other modifications and a general conformity of the methods of science, there is one rule which it is absolutely necessary to establish before anything definite can be accomplished, which rule is, that in experimenting with drugs, each group of experimenters use but one drug preparation at a time, *e. g.*, in a supposable group of twenty provers, the tincture alone be used by all, in other similar groups, the third, sixth, twelfth, etc., etc., alone be used, respectively. In this manner some definite idea may be established of just exactly the amount and kind of disturbance which will be caused in the system by the given drug preparation; something more definite being thus discovered of the so-called primary action of the crude drug in "full" doses, and also of the primary action of the attenuated drug.

Regard the case dispassionately and see how absurd it is to expect to secure rational results in drug experimentation, when a dozen different experimenters use as many different preparations of a drug. It is true there will probably be all the different effects of the drug, from the earliest sign of disturbance caused by the crude substance to the most remote effect of the attenuated drug; but this conglomeration of symptoms will give us no information bearing on the question of primary and secondary effects.

We know little of the beliefs of the majority of the drug provers of the past, near or remote, but if they did believe in this double result which follows drug administration, no evidence of it is found in their work; records of supposed effects from all kinds and degrees of dilution of the same drug are mixed in hopeless confusion. I am, of course, aware that much has formerly been said by writers on theory, concerning primary and secondary action, alternating action, active and passive results, positive and negative symptoms, etc., but I am also aware that no effort has been made to clarify the subject. Either this has seemed impossible or unnecessary; certainly it has not been done.

The question may be asked at this juncture, Why is it necessary that a

homoeopathic practitioner should know anything about primary and secondary drug action? The reply is, So that he may know when to prescribe a high and when a low dilution. To illustrate: A drug has been proved in the sixth or third decimal dilution, certain results, conditions and symptoms, have followed; similar symptoms appear in a patient to whom we are called; what dilution should be prescribed? Surely we would not give anything lower than the dilution from which the pathogenetic symptoms were obtained, because experience has shown that the average approximately healthy prover requires more drug substance to produce results, than does an individual suffering from some perversion of health, and consequently the proper dilution to give would be one containing even less material than the one with which the proving was made. To give an example: Suppose we have a patient who is suffering from depression of the vital forces, a contracted pupil, darkly flushed face, coldness of the surface, stupor with stertorous breathing being concomitant, we would not give opium in grain doses, but a smaller amount would be administered than is required to produce the similitum of such a condition in the experimenter. On the other hand, suppose we have a case of delirium, with frightful and distressing visions, anxiety and fear of impending death, together with sleeplessness and acuteness of hearing (all being symptoms which are believed to have been caused by infinitesimal doses of opium), we would not prescribe a dose of the drug containing more material than was contained in the dilution which produced these symptoms in the experimenter, but would give even a higher dilution. That is, we would do it if we wished to prescribe in accordance with the law of similars.

I have mentioned opium several times as illustrative of the principle involved, simply because we know more of the extreme effects of this drug than we do of many others. In many instances opium can be applied according to the views I have expressed, but further experiments are needed with opium to more clearly emphasize the finer details of experiments with both the crude drug and the dilutions.

I trust I have made clear this question of the effects of material doses on the one hand, and of dilutions on the other; as, for example, the tincture in the one instance and the sixth dilution in the other. It may, however, be asked, What about the effects of the intermediate dilutions, that borderland in which is found evidences of action and re-action so hopelessly confused? Herein, it must be confessed, we are confronted by a problem which at first glance seems almost impossible of solution; but obstacles frequently seem insurmountable until we undertake to grapple with them, when the difficulties vanish. I do not, however, claim that the suggestion I am about to offer will solve this question to the satisfaction of all, but it is my idea of a solution, and I offer it for what it is worth. When a drug is given in what is known as a "full dose" (*e. g.*, opium, two grains), certain results follow; when a smaller amount is given less decided results follow, which are similar in kind though not in degree. This similarity in kind of results continues as the experimental dose is diminished, until a point is

reached when results which are even similar in kind no longer appear, but results bearing an ever lessening degree of similarity present themselves and continue to develop, until as the ultimatum we have a condition existing which is diametrically opposite to the condition manifested as a result of the full dose of the drug. It is this variance in degree of resemblance of the general effects of different degrees of drug dilutions, which renders a proving of a drug made with a variety of dilutions so contradictory and confusing. Furthermore, another reason why such a mixed result proving is confused and confusing is, because not only are so many degrees of pathogenetic drug similarity recorded as from one cause, but the manifestations of the primary or *active* condition of the organism is recorded in conjunction with the secondary or *passive* condition of the organism; we therefore have constipation and diarrhoea both recorded without any clue as to which was the result of a low potency or which was the result of a high potency; we have anorexia and bulimia similarly recorded, thirst and thirstlessness, dilated pupils and contracted pupils, diuresis and anuresis, cold skin and hot skin, etc., etc., etc., to the end of the chapter.

How is all this to be remedied?

The remedy is quite simple; so simple, indeed, that we wonder why such defects have not long ago been remedied, nay, we even wonder why our provers ever fell into such confusion in experimenting with drugs. In the first place I would suggest, as I have already suggested, that no group of experimenters should test more than one preparation of a drug at the same time. As many experiments may be made as the conductor of the tests may desire, but let no member of a given group of provers use any other dilution than the one in process of proving by all the other members of the same group. Use the fluid extract, the tincture, or any other preparation preferred, but use none other during that experiment.

This is the first rule, and the second is, that after the individual experimenter has recorded certain definite results from the drug under test, he shall make a separate record for all symptoms which appear to contradict the symptoms first recorded. It may be that some provers will have but one set of symptoms (call them primary if you wish), but some will have two separate and distinctly opposite groups of symptoms and conditions.

Furthermore, I do not believe it is necessary to complicate the work of drug tests by proving such a great variety of preparations of the same drug. I believe all that is reliable of drug effects will be secured by testing the crude drug substance, and one other preparation ranging from the third to the twelfth decimal. (Experimental tests must prove the dilution best suited to the average prover.) From the crude drug I would expect to derive what are generally known as primary symptoms, and from the selected dilution I would expect to secure what are known as secondary symptoms. I am well aware of the difficulties which must attend the effort to decide upon a single dilution as the preparation for general use in proving drugs, both because of the fact that drugs vary as to their qualification for infinitesimal subdivision and also because some individuals are more

susceptible to various influences than others, but I believe it will be possible to decide upon a proper dilution for each drug, which dilution will produce the effects desired in the prover of average susceptibility. It is, of course, the prover of average susceptibility we most desire for pathogenetic drug tests; the idiosyncratic individual should be classified separately.

In my opinion the foregoing views applied to the critical testing of drugs upon the voluntary experimenter, will go far towards the discovery of the law upon which we may be able to depend in prescribing the proper dilution of drugs for the ailments to which flesh is heir; and if it is possible to formulate such a law it is through work in this direction that the end will be attained.—*North American Journal of Homœopathy*, May 1896.

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VOL. XV.] **July 1896.** [NO. 7.]

THE NEW PHOTOGRAPHY.*

Gentlemen,—I have thought that we could not begin our new session with a more fitting subject than that which for the last five months has been exercising the minds of scientific men throughout the world. As Prof. J. J. Thomson has truly remarked: "The discovery by Prof. Roentgen of the rays which bear his name has aroused an interest perhaps unparalleled in the history of physical science." There have been discoveries, especially in recent times, in every field of science, which by revealing and realizing undreamt of possibilities have struck even the minds of scientists with amazement bordering on perplexity. But no discovery has extended the frontier of knowledge so far into the hitherto inaccessible unknown as that of the Wurzberg Professor. Literally, a bridge of light has been thrown across the dark chasm which separated the domain of light from that of electricity.

It is exceedingly interesting and instructive to note the various steps which have led to this most remarkable discovery.

* Being the substance of a lecture delivered by the Editor before the Indian Association for the Cultivation of Science, introductory to the session 1896-97, on July 3rd 1896.

of modern times. These steps have proceeded from the side of light and from the side of electricity. The discovery of the influence of light on chemical processes, causing in some instances decomposition, in others chemical union of substances, represents the first series of steps from the side of light. The decomposition of light itself into rays of various colors, in other words, of various degrees of refrangibility, possessing different physical and chemical properties, together with the discovery of rays beyond the visible spectrum, or in other words, of dark or invisible rays, endowed with properties of a similar character, constitutes the second series of steps in continuation of the first. The electric spark or the production of light from the union of the two electricities, the production of heat and light from the impeded passage of a current of electricity, constitutes the first series of steps from the side of electricity. The invention of Ruhmkorff's coil and of vacuum tubes facilitating the study of electric discharges in ordinary air and in vacua of different degrees of exhaustion constitutes the second series of steps, in continuation of the first from the same side.

It would take many lectures to give even a résumé of the various discoveries relating to electric discharges in vacua which have been the forerunner of the subject of this lecture. The researches of Hittorf and especially those of Crookes on electric discharges in high vacua, where the attenuation of the gas is carried on beyond the millionth of an atmosphere, revealed properties both of electricity of great intensity and rapid alternation, and of matter in a high state of tenuity, which were startling. The chief of these were the predominant activity of the negative pole, and the darting of the molecules of the attenuated gas urged by negative electricity from the negative pole in straight lines; these streams of molecules behave like electrified molecules. They repel each other, they are deflected by the magnet, &c. These streams of molecules, proceeding from the negative pole, are known as cathode rays. Some physicists, like the Hungarian Professor Philipp Lenard, look upon them as affections of the ether and not material streams at all. But that they are streams of actual material molecules, is proved beyond the shadow of a doubt by the fact that electric discharges do not take place in tubes in which the vacuum is perfect.

After the discovery of these remarkable properties, no further advance was made so long as the study of these so-called rays were confined to their play within the walls of the vacuum tubes. But in 1892, shortly before his death, Hertz made a discovery which was the start for a rapid succession of fresh and more remarkable discoveries of which the subject of our lecture forms the last. Hertz's discovery was that the cathode rays can pass through thin plates of various metals which are quite opaque to the rays of ordinary light. Prof. Lenard at once saw that he could, by availing himself of this property, bring the cathode rays out of the vacuum tubes without destroying their vacuum, and make them yield other properties by subjecting them to new experimental conditions. He succeeded beyond his expectations. By means of a window of thin aluminum leaf in a vacuum tube, he could get the cathode rays out of the tube; and by causing them to enter another glass tube, he perceived a strong smell of ozone; by causing them to fall upon a fluorescent screen he caused it to glow brightly; by passing them through various substances—solid, liquid and gaseous,—he showed that their behaviour was different from that of ordinary light. Thus glass and mica which are transparent to ordinary light were found opaque to these rays. Paper and aluminum which are opaque to light were found transparent to these rays.

But the Hungarian Professor went further. He found that a photographic plate was actually affected by these rays, and by interposing pieces of cardboard and aluminum between the window of his tube and the photographic plate obtained what Mr. Swinton has described as "shadow images almost identical with those of Roentgen." Not having the details of Prof. Lenard's experiments before me I cannot say how far the shadow images obtained by him were similar to those of Roentgen. The fact remains that he did not seem to pursue the subject to its further development. Prof. Roentgen did and obtained the splendid results which I have the honor to lay before you. A few well-devised experiments showed him that the aluminum window was unnecessary; and that these rays will pass through the glass walls of the tube, even when "surrounded by a fairly close-fitting shield of black paper." Thus it was discovered that the fluorescent light of the tube was not essential for the production

of the phenomena of fluorescence and affection of the photographic plate outside the tube.

The great merit of Prof. Roentgen was to show that the rays which produce all these phenomena outside of the vacuum tube are not identical with the cathode rays which exist only within the tube, for the very simple reason that whereas the latter can be deflected by the magnet, the former remain unaffected even in the most intense magnetic fields. The outside rays he looks upon as altogether a new kind of rays though depending for their origin upon the cathode rays. He has, we think very happily, called them X-rays whose nature has yet to be worked out.

The sensitiveness of the photographic plate to the X-rays, Prof. Roentgen considers as of special interest, because it enables the experimenter to exhibit the phenomena, which result from the action of these rays, so as to exclude the danger of error. "I have thus," says he, "confirmed many observations originally made by eye observation with the fluorescent screen. Here the power of the X-rays to pass through wood or card board becomes useful. The photographic plate can be exposed to the action without removal of the shutter of the dark slide or other protecting case; so that the experiment need not be conducted in darkness." This is no doubt a great advantage, but there is an obvious corresponding disadvantage against which the Professor cautions experimenters—"unexposed plates must not be left in their box near the vacuum tube."

Before proceeding further let us see what the points of resemblance and of difference are between the new and the old photography, between the photography by the Roentgen or X-rays and the photography by the rays of ordinary light. In both the development of the image depends upon the decomposition of the salts of silver. Herein consists all the resemblance between the two. The most obvious difference between them is that in the case of the old photography we have the direct image of the *front* of an object, in the case of the new we have only the out-line of the *shadow* of an object by rays falling on its *posterior* or *back* aspect. You can never get the image of its anterior or front aspect, in other words, you can never get its true image. What I mean will be rendered obvious to you by the few experiments that I shall perform before you.

You see that I have arranged for two series of experiments—in one the vacuum tube is kept naked ; in the other it is wrapped up with black paper. This difference in the condition of the tubes makes no difference whatever in the photographic results that will be obtained by them, the photographs coming out as well by means of the naked as by means of the covered tube, proving as was shown both by Prof. Denard and Prof. Roentgen, that it is not the luminous rays or streams of molecules proceeding from the negative pole which are the efficient cause of phenomena that are observed outside the tubes. I take two similar leathern bags and put some coins of silver and of copper within them, separate from each other, and you will see that, when they are placed over the photographic plate covered over by a thin sheet of aluminum and subjected to the radiations from these tubes, the plate will be affected as if light had passed through the leather and been arrested by the coins. The positive picture taken from this negative plate will show the dark outlines or shadows of the coins and light faint outlines, if at all, of the bags. You do not see the impressions on the faces of the coins, which you would have if they had been photographed in the ordinary way. Compared with the old photography this is, from one point of view, a great defect of the new photography. But from other points of view the new has immense advantages over the old.

The old photography, depending upon the action of light reflected from the surfaces of objects, can only give us images of those surfaces ; it can never give us any image of structures in the interior of bodies. The new photography, depending upon the action of rays passing through the substances of bodies and upon the varying opacities or transparencies of those substances to these rays, has the marvellous power of revealing their structural constituents by means of their shadows of varying depths. Indeed it is this marvellous power of the new photography which has created such an unexampled sensation throughout the world not only among men of science but even amongst men who scarcely betray any interest in scientific discoveries. To be able to see into the interior of bodies by means of rays themselves invisible is what could never enter into the imagination of man to conceive but which when actually realized cannot fail to strike the most indifferent and apathetic as something bordering on the miraculous.

and showing what extraordinary powers man may attain by a diligent cultivation of science. Had it not been for the shadowy outlines of the bones of the living human hand which Prof. Roentgen obtained by means of the X-rays, it is doubtful if he himself would have pursued the subject with such ardor, and if others would have shown the same interest in it that they have done.

You see from the photographs I exhibit before you, of the human hand, of the human foot, of a frog, of a bat, and of several fishes, which I had taken by means of the X-rays with lengths of exposure varying from 5 to 60 minutes, that bones in all cases proved very opaque to these rays, so that we have their outlines more or less defined, and this definition depended upon the time of exposure and upon the intensity of the cathode rays, that is, of rays proceeding from the negative pole within the tube,—the definition being better the longer the exposure and the greater the intensity of the cathode rays. I have also observed, as others have done, that the greater the intensity of the cathode rays the less the necessity of long exposures. So that with suitable tubes and with powerful induction coils to excite them, a few minutes' or even a few seconds' exposure would do what from a quarter of an hour to an hour's exposure is now doing.

You see what a rich development is in store for the new photography, but this development is only attainable through an almost infinite multiplication of experiments. These experiments will have to be conducted with all sorts of substances inorganic and organic, of different degrees of thickness, and under exposure varying from a few seconds to an hour or more. It is only thus that the different transparencies of different substances under different conditions can be ascertained; and it is then only that the shadow photographs can be properly interpreted.

Already a great deal has been done in this direction by Prof. Roentgen himself. His experiments so far have led him to believe that no body is absolutely opaque to these rays, but that every body is more or less transparent to them. "For example, paper is very transparent; the fluorescent screen will light up when placed behind a book of a thousand pages; printer's ink offers no marked resistance. Similarly the fluorescence shows behind two packs of cards; a single card does not visibly diminish the brilli-

ancy of the light. So, again, a single thickness of tinfoil hardly casts a shadow on the screen; several have to be superposed to produce a marked effect. Thick blocks of wood are still transparent. Boards of pine two or three centimetres thick absorb only very little. A piece of sheet aluminum, 15 mm. thick still allowed the X-rays to pass, but greatly reduced the fluorescence. Glass plates of similar thickness behave similarly; lead glass is, however, much more opaque than glass free from lead. Ebonite several centimetres thick is transparent. If the hand be held before the fluorescent screen, the shadow shows the bones darkly with only faint outlines of the surrounding tissues. Water and several other fluids are very transparent. Hydrogen is not markedly more permeable than air. Plates of copper, silver, lead, gold, and platinum allow the rays to pass, but only when the metal is thin. Platinum 2 mm. thick allows some rays to pass; silver and copper are more transparent. Lead 1.5 mm. thick is practically opaque. If a square rod of wood 20 mm. in the side be painted on one face with white lead, it casts little shadow when it is so turned that the painted face is parallel to the X-rays but a strong shadow if the rays have to pass through the painted side. The salts of the metals, either solid or in solution, behave generally as the metals themselves."

Newspapers have already made you familiar with the surgical and medical applications that have been made of the new photography. Bullets and needles imbedded in the tissues have been detected by its aid, and actually extracted. Fractures and diseases of bones have also been demonstrated. Even the presence of stone in the urinary bladder and of biliary calculi in the gall bladder and in the liver has been detected by Prof. Neusser of Vienna. Dr. Uberto Dutto of Rome has delineated the arteries of the human hand by injecting them with plaster of Paris, thus pointing to the future use of the new photography in the study of anatomy and even of living physiology. The genuine precious stones are found to be a great deal more transparent to the X-rays than the imitation artificial ones, and hence the real may be easily distinguished from the false by means of these rays. There are no doubt other, and as yet undreamt of, uses of this new offspring of science which are awaiting discovery.

As regards the nature of the rays themselves, which have

armed us with such new powers of observation, akin almost to addition of a new sense more acute and sensitive than the eye itself, the subject is involved in the deepest mystery. There is necessarily great diversity of opinion about the matter. I shall first place before you Prof. Roentgen's views. He has thus summarized the differences between these rays and those of ordinary light :

1. They are not refracted in passing from air into water, carbon bisulphide, aluminum, rocksalt, glass, or zinc.

2. They are incapable of regular reflection at the surfaces of the above bodies.

3. They cannot be polarized by any ordinary polarising apparatus.

4. Their absorption by various bodies depend upon their density.

Hence, argues Prof. Roentgen, they have no resemblance to either the ultra-violet, or the infra-red rays. Hertz's electric waves, having all the properties of reflection, refraction and polarization like light, cannot be assimilated with the X-rays. Nor are they identical with the cathode rays, as is shown by their want of deflection by the magnet ; and yet there is not the least doubt that they owe their origin to these rays. But though of electrical origin, the X-rays have an undoubted relationship with the rays of ordinary light as shown by the fluorescence they can excite, by the shadows cast by objects which intercept their path, and by their chemical action on the photographic plate. Ordinary light is now acknowledged to be due to transverse vibrations of the ether. The X-rays cannot be due to such vibrations, for in that case they would, like ordinary light, be capable of reflection, refraction and polarization, which they are not. They cannot be streams of molecules of matter. They must therefore be some affection of the ether. "Should not the new rays," asks Prof. Roentgen, "be ascribed to longitudinal waves in the ether ?" There is not only no impossibility in the hypothesis, but it seems to derive countenance from the conclusion arrived at by Poincaré, from mathematico-physical considerations, that longitudinal vibrations cannot be deflected from their line of propagation by the action of a magnet.

(To be continued.)

REVIEW.

The Chronic Diseases, their Peculiar Nature and their Homœopathic Cure, by DR. SAMUEL HAHNEMANN. Translated from the second Enlarged German Edition of 1835, by Prof. LOUIS H. TAFEL. With Annotations by RICHARD HUGHES, M.D. Edited by PEMBERTON DUDLEY, M.D. Boericke & Tafel, Philadelphia. 1896.

It is scarcely necessary to state that the following observations have reference to this book not as Hahnemann's work on Chronic Diseases, but as a new English Translation and edition of that work. We offer no criticism on the doctrines inculcated here by the founder of Homœopathy. We simply express our opinion on the way in which the Translator, the Annotator, the Editor, and the Publishers have done their respective parts in presenting one of Hahnemann's most important works to the English-understanding portion of mankind.

This is not, as our readers are aware, the first but the second English translation of the *Chronic Diseases*. The first was done by the late Dr. Charles Julius Hempel and published by the late Mr. Wm. Radde just half a century ago. It might be asked if there was a translation by such a distinguished man as Hempel who, in the early days of Homœopathy, did more than any other man to extend a knowledge of the system, what was the justification for a second translation? There would have been none if Hempel's translation had been faithful and complete. As a first attempt it deserves the greatest praise. The English-knowing portion of the profession and indeed of the whole human race owes him a debt immense for having been the first to introduce Hahnemann to them.

But as Hempel himself admitted his translation was not *literal*. "Hahnemann's phraseology is so involved," said he, "and bears so little resemblance to the usual modes of constructing periods either in German or any other language, that it is utterly impossible to furnish a bare translation of Hahnemann's writings. There is but one way of turning them into another language; that is, first, to master the sense of a period, and afterwards to embody it in the foreign tongue in a free manner. This is the course which I have pursued in translating this volume. I have

not translated *words* but *ideas*. And the ideas I have rendered fully and faithfully : on this head I challenge criticism."

Criticism has awarded the praise, as we have said, due to a first attempt which met at the time a most pressing necessity. But criticism demands that when an author has to be presented in a foreign language, he should be presented, as far as possible, with all the peculiarities of his style in his own language. Language is an inseparable element, indeed, a necessary side of thought and feeling. Peculiarities in the language employed by an author necessarily indicate the peculiarities of his thoughts and feelings ; in other words, the language of an author is the most faithful mirror of his mind.

Dr. Pemberton Dudley, the editor of the present translation, has enumerated the following among the peculiarities of Hahnemann's language : "(1,) his long, and often involved, sentences ; (2,) his exceedingly frequent employment of parenthetical clauses and sentences, and his not infrequent use of parenthesis within a parenthesis ; (3,) his multiplicity of iterations and re-iterations—occurring twice or thrice in a single paragraph ; sometimes twice in the same sentence— ; (4,) his frequent interjection of words and phrases expressing anew some minor feature of the subject under discussion, but forming no part of the discussion itself ; (5,) his introduction of qualifying words and phrases in certain peculiar and unusual connections, likely to escape the notice of the casual or careless reader but evidently intended by the author to be taken at their full significance and importance and to constitute an essential element of the discussion." Dr. Dudley rightly adds that the failure to note this last mentioned characteristic has occasioned much misunderstanding of Hahnemann's doctrines.

If Hahneman had been an ordinary author his translator might have been justified in giving only the substance of his writings. But considering his unique position as a discoverer and the creator of the true science of healing, Dr. Dudley does not use the language of undue exaggeration when he says: "To modify or disguise his modes of thought and expression or to suppress the peculiarities of his literary style, would be an unpardonable distortion of the most pre-eminent figure in all medical history."

But it is not for this reason alone that a new translation of Hahneman's works has been deemed necessary. Hempel's translations are not only too *free* to at all adequately represent Hahnemann's ideas; they have been found to be full of inaccuracies and omissions. It is these which peremptorily demand a really faithful translation. Dr. Dudgeon supplied the desideratum as regards the *Materia Medica Pura* so far back as 1880-81. And we at last have a similar faithful translation of the *Chronic Diseases* which completes the materia medica as left by Hahnemann. Prof. Tafel assures us that he has followed the example of Dr. Dudgeon, in having "faithfully rendered not only the ideas but also the expressions of Hahnemann," and that, "with the able assistance of Dr. Dudley" while he has avoided "too close a clinging to the German original, he has been able to preserve the long periods of the author and his own precise though sometimes redundant phraseology."

The fact of Messrs Boericke and Tafel having entrusted Prof. Tafel with the work of translation, no doubt, is a guarantee that the learned professor must be an eminent German scholar fully competent for the arduous task. It would, however, have been reassuring to people outside America, to have given in the title-page at least some token of his speciality. He must be, we are sure, well known in his own country, and for an outsider not to know him may argue the outsider himself being unknown. But there would have been no harm if the qualifications of the professor had been set forth in such a way as to leave no doubt in the mind of the foreign reader as to what they are. We have no means even of knowing if he is a medical man. Probably he is not, as Dr. Bradley, the biographer of Hahnemann, speaks of him as "Rev." Or perhaps he is both doctor of divinity and of medicine. Whatever it is, to have described him as simply "Prof." was to have done him an injustice and to have left the non-American reader in perplexing uncertainty. We trust that, with the able assistance of Dr. Pemberton Dudley, the work of translation has been well done, and Prof. Tafel deserves our best thanks for having done it in comparatively so short a time. We only wish that he had not left out the preface to the third part of the original work which deals with a most important part of Hahnemann's teachings, "the best mode," as he thought, "of exhibiting drugs in chronic diseases."

The work of annotation which Dr. Hughes has done for this translation of the *Chronic Diseases* is similar to what he did for Dr. Dudgeon's translation of the *Materia Medica Pura*. The service thus rendered to the readers of the work is invaluable. It is what Dr. Hughes alone by his almost life-long and indefatigable research could do. The *materia medica* portion of the *Chronic Diseases* is, as Dr. Hughes has shown, "a complex whole, made of very heterogeneous elements." These heterogeneous elements consist of contributions from Hahnemann himself, from his disciples, from Prof. Joerg's provings, and from the extant literature of his day. Hahnemann's own contributions are not likely to have been from provings on his person, as he was, about the time he conceived the theory of the chronic diseases, over seventy years old. "We are compelled to the conclusion," says Dr. Hughes, "that he drew these symptoms mainly—if not entirely—from the sufferers from chronic diseases who flocked to his retreat (at Coethen), to avail themselves of his treatment."

From the solemn assertion of Hahnemann that "the medicines which have been found suitable and excellent in chronic diseases so far, I shall present in the following part according to their *pure action on the human body*," we were led to believe that the symptoms ascribed to the remedial agents in this his latest work were in reality what they are described to be, namely, genuine pathogenetic symptoms, and we accordingly gave expression to this belief in the previous numbers of this Journal, in opposition to Dr. Hughes' views. We have, however, discovered so many inconsistencies and contradictions in our great Master, that we are now inclined to think that Dr. Hughes is right after all. This view receives corroboration from § 142 of the *Organon* where Hahnemann has thus hinted at the possibility of eliciting genuine symptoms of a drug which has been administered to a patient: "But how some symptoms of the simple medicine employed for a curative purpose can be distinguished amongst the symptoms of the original malady, even in diseases, especially in those of a chronic character that usually remain unaltered, is a subject appertaining to the higher art of judgment, and must be left exclusively to masters in observation."

In recommending such a mode of eliciting pure pathogenetic symptoms, though very guardedly, Hahnemann no doubt had an eye upon himself as a master in observation competent to

distinguish between the symptoms which are due to a patient's disease and those due to the drug administered. It is not improbable, therefore, that in his advanced years, advanced beyond the ordinary span of human life, when provings on his own person was not possible or safe, he should have considered himself justified, especially when impressed with the absolute necessity of discovering a new set of remedial agents, in using a method which was not to be trusted except to masters in observation.

This view receives further corroboration from Hahnemann's advice to his favorite disciple, Dr. Stapf, as to how to use the antipsorics: "You are now acquainted with the estimable remedies, you have them and can employ them, *empirically at least*, for you know even what doses to give them in. * * * Even after I had them I did not at first know what they would do. You may, whilst using them, make excellent observations on their peculiar effects and gain much knowledge respecting them, as also by the many splendid cures you may perform with them, as you have only six or eight medicines to choose from, and not from the whole *Materia Medica*." Here we have a broad hint to one of his disciples for the empirical use of the few antipsorics he had then discovered, and who knows he might not have discovered them in a similar way? No one would deny that he was an acute and discerning observer. But if observations on the sick were the real source of the symptoms which he contributed as pure symptoms of the remedies in the *Chronic Diseases*, it would have been fair to his disciples to have made the admission. Probably he was afraid that the admission would open the door to incompetent men flooding the *materia medica* with impure, unreal symptoms. Whatever the cause of his silence the question as to how he obtained these symptoms must remain unsolved, though the probability is very strong in the direction of Dr. Hughes' surmise.

Then as regards the provings of his disciples, they are divisible into three groups according as they are provings of the earlier period, or provings of the later period, or symptoms (as in the case of Wahle's symptoms of *Mezereum* and Hering's of *Arsenic*) derived from patients. It is necessary, therefore, to find out to which group the symptoms belong in order that their real value may be estimated aright.

Then as regards the extant literature upon which Hahnemann drew for many of his symptoms, it is true that he has given references to his various authorities. But it is necessary for the sake of strict accuracy that these references should be verified, in order to see how far the borrowed symptoms do, and how far they do not correspond, with the original, and what value can be attached to them as genuine symptoms.

All this laborious work Dr. Hughes has done, and we give in his own words the way in which he has done it :

"1. In the preface to each medicine Hahnemann gives a list of names of 'fellow-observers.' To this I shall append a note, stating whether these were provers of the later or earlier times in which case the manner of their experimentation is to be learned from what I have written above, or whether their observations already existed in print, and what information we have respecting them.

"2. In the pathogeneses themselves, the first time an author is cited I shall state the nature of his contribution to the subject (supposing his work to have been accessible to me). Then—having examined his symptoms *in situ*—I shall append to each such explanation or correction as may be necessary to set it forth in its full meaning and value.

"3. The foregoing information, and any other I may be able to supply as to individual symptoms, will be found in notes at the bottom of the page, designated by the small figures 1, 2, &c., and divided by a line from Hahnemann's own annotations, which have the usual *, †, &c. But while I have left untouched in the text the pathogenetic symptoms themselves, I have used greater freedom with the references to medical literature. These sometimes require correction, more frequently explanation—especially when transferred from the *Materia Medica Pura* or from Hartlaub and Trinks' work; in which case Hahnemann has practised omission to a very large extent, leaving those curious in the matter to refer to the previous publications. I have thought that the present volume would be more complete in itself, and more worthy of its author, were the references fully as well as rightly given; and have supplied them accordingly."

It will thus be seen that Dr. Hughes has set forth the true value of the work by enabling the reader to judge for himself of

the degree of certainty that properly attaches to the symptoms. Nothing has a more disastrous effect on the practice of Homœopathy than the mixture of real with false symptoms and symptoms whose genuineness is doubtful. Dr. Hughes by his careful annotations has helped in the elimination of the false and in putting the practitioner on his guard about doubtful symptoms. Hahnemann had a herculean task before him, and no wonder that, in his anxiety and eagerness to complete as much as possible a system which he had founded, he should have fallen into errors and inaccuracies, especially when we take into consideration the advanced age at which the work of completion was attempted. But that is no reason why we, his disciples, should cling to those errors and inaccuracies as gospel truth. Indeed, that ought to be the very reason why we should endeavour to purge his system of them.

We have, in conclusion, to thank Messrs. Boericke and Tafel for having succeeded in placing this volume in the hands of the profession within less than a year and half after the project of a new translation was decided upon. We think it was owing to their laudable anxiety to issue the book as speedily as possible that a rather unusual number of typographical errors have crept in, especially in the notes of Dr. Hughes. We believe this might have been avoided by more careful proof reading, and by requesting Dr. Hughes to send his notes printed instead of in MSS, which of course would have involved a little additional expense. Barring this rather serious blemish the get-up of the book is excellent, type and paper being both good. We are however obliged to express our dissatisfaction with the size of the book which is quite American in its dimensions. It is as inconvenient for constant use as Dr. T. F. Allen's *Hand book* (!) of *Materia Medica*. The wonder is that our American brethren do not feel the inconvenience. The book under review could very well have been divided into two volumes, the 1st ending with IODUM, the 2nd beginning with KALI CARBONICUM. It would then have been uniform with the English Translation of the *Materia Medica Pura*, and would certainly have been more comfortable for use. If KALI CARBONICUM had been begun on p. 807 instead of on p. 805, leaving the lower portion of this page and the whole of the next page blank, then the purchaser of the book might, if

he had wished, have got it bound in two volumes. But as it is he can not do it.

There is another thing we notice which does not appear to us to be quite correct, and that is the headings of the pages. Down to page 176, the heading on both sides of the pages is "*Hahnemann's Chronic Diseases.*" After this we have the same heading on the left, and the name of the medicine treated on the right. This is more convenient to the reader as it facilitates his finding out the remedy he may be seeking. The simple heading CHRONIC DISEASES should, in our opinion, have been used in place of *Hahnemann's Chronic Diseases*, for the obvious reason that the book is a translation of, and not a dissertation on, *Hahnemann's Chronic Diseases*. This, however, is a slight blemish and we do not attach any importance to it. We wish that as every homœopathic practitioner ought to have a copy of this work, the whole of this edition may be rapidly exhausted as it deserves to be, so as to prepare the way for a faultless second edition.

EDITOR'S NOTES.

Toxin and the Antitoxin of Cholera.

The *Annales de l'Institut Pasteur* (May 25th) contains an important paper on the "Toxin and the Antitoxin of Cholera," by MM. Metchnikoff, E. Roux, and Taurelli-Salimbeni. They conclude that to counteract the effect of the cholera poison in man an antitoxic and not an anti-microbic serum is required. Experimenting with a serum obtained from a horse immunised by means of soluble cholera toxin, they found that it was efficacious in preventing the development of intestinal cholera in young rabbits, 51 per cent. of those so treated surviving as against 19 per cent. of the controls. When the disease had begun, or even twenty-four hours after the animals had ingested the vibrio, the treatment failed. The authors hope that from horses more strongly immunised an antitoxic serum of greater efficacy may be obtained. They think that their experiments so far support the conclusion that anticholera serum, prepared according to Behring's principle, prevents intestinal cholera in young rabbits. — *The Practitioner*, July.

Prize for Life-Saving Appliances.

We learn from the *British Medical Journal* of the 27th June that the Council of the Society of Arts are prepared to award, under the terms of the Benjamin Shaw Trust, a gold medal or a prize of £ 20. Under the conditions laid down by the testator, the medal is to be given "for any discovery, invention, or newly-devised method for obviating or materially diminishing any risk to life, limb, or health, incidental to any industrial occupation, and not previously capable of being so obviated or diminished by any known and practically available means." Intending competitors should send in descriptions of their inventions not later than 31st December 1896, to the secretary of the Society of Arts, Adelphi, London, W. C. The Council will appoint the judges, and they reserve the right of withholding the prize or of awarding a smaller prize or prizes, if, in the opinion of the judges, nothing deserving the full award is sent in. The object for which the prize has been offered is an important one, and will, we hope, be competed for by a large number of candidates.

A Case of False Hermaphroditism.

Prof. Pean recently reported before the Paris Academy of Medicine the queer case of a 15-year old pseudo-hermaphrodite, who at birth was inscribed as a girl in the birth register of her village. At her twelfth year her face assumed a masculine appearance; for her chin and lips became covered with a beard, and at the same time her clitoris grew to such proportions her physician became doubtful as to her sex, and sent her to Paris for examination. Here, after a thorough examination by several physicians, she was declared to be a boy. She returned home and resumed her place as a stable boy, while she was inscribed in the mayor's book as male. She was not suited with her work, and as at certain intervals she experienced abdominal pains, the physician was again a prey to doubt whether she was not, after

all, a female. He sent her to Pean, who only saw a possibility of determining her sex by a laparotomy to seek for testicles or ovaries. This was done, and he found ovaries, with tubes and the uterus, and at the same time could make out neither prostate nor seminal vesicles. The wound healed by first intention. A few months later he made her a sort of artificial vagina, thinking that it might be of "some service" for her in case that she should think later of marrying. Still later he did a second laparotomy to free her from her pelvic neuralgia and to prevent a hæmatometra. Since then she has felt quite well.—*Hahnemannian Monthly*, June, 1896.

Fever.

In the discussion on fever in the fourteenth Congress for Internal Medicine (*Centralbl. f. inn. Med.*, April 25th, 1896) Unverricht mentioned that there were two theories of fever: (1) that of Liebermeister, who would look upon the raised temperature as producing the other symptoms of fever, and (2) the view that fever is a complex of symptoms in which temperature plays an important part, but does not cause the other symptoms. Unverricht believes that the symptoms of fever do not depend on the temperature, but on the nature of the cause of the fever, and especially upon the toxic products circulating in the blood in infective processes. There is in all probability no single poison common to all the infective processes, such as the escape of fibrin ferment in the blood. Other symptoms of fever may be present, without rise of temperature. V. Jaksch pointed out that besides the rise of temperature metabolic changes were an important manifestation of fever. Large doses of alcohol were to be avoided. Antipyretic drugs were valuable not because they were antipyretics, but because they were nerve tonics, and they could not be done without. Schill had never used antipyretics. Unverricht has always taught that the damage hitherto attributed to raised temperature has not been proved, and that the view that the raised temperature is useful is in all probability correct. Experiments on animals show that febrile temperature exercises an inhibitory action on the development of bacteria. Perhaps certain toxins form at higher temperatures new and harmless combinations. Clinically the pneumonia of the aged is less unfavourable if the temperature is high.—*Brit. Med. Jour.*, June 27, 1896.

Antitoxin Fatalities.

Gottstein (*Therap. Monatshefte*, May, 1896) has been induced by Langerhans's case to collect the reference to deaths under, and presumably from, the antitoxin treatment in the literature. These fall under two headings, according to whether the patient was actually suffering from diphtheria, or whether it was inoculated as a preventive measure, or when suffering from a throat affection which turned out eventually to be non-diphtheritic. In both these categories there are elements of difficulty. In the first it may be uncertain as to whether death resulted from the disease or the remedy; in the second the fatal issue may have been due to latent diphtheria or some other

grave affection. It must also be remembered that many of the cases which recover develop complications due to the antitoxin; out of 1,805 such recoveries (in 2,228 cases) recorded in Berlin during the first quarter of 1896, 420 showed exanthemata or other signs arising from the antitoxin, a total of 23 per cent. Gottstein enumerates 14 cases in which diphtheritic children appeared to have died from the effects of antitoxin, and 4 in which diphtheria was excluded, but the child nevertheless succumbed. He comes to the conclusion that in a certain definite number of cases, not confined to patients suffering from diphtheria, the injection of antitoxic serum has been rapidly followed by fatal collapse. He considers that in spite of the large number of cases which recover without any after-symptom, the fatal instances show diphtheria, antitoxin is a more or less dangerous remedy, often leading to the symptoms of poisoning by fibrin ferment. He considers also that the proportionate danger is greater than that with chloroform, since the latter is at any rate certain in its action, whereas the serum often fails altogether, while its immunising power is most variable.—*Brit. Med. Jour.*, July 4, 1896.

Death by Lightning Stroke.

A thunderstorm of much severity passed over East Sussex on July 15th. A fatality occurred at Bexhill-on-Sea. A young man aged twenty years was driving a horse and water-cart after delivering a load of water at a brick-field. He was sitting on the cart, or rather on a galvanised iron tank in the cart, and driving in the thick of the storm. He was passed by a brewer's van, the driver of which looked round several times afterwards on account of the vivid lightning and the heavy thunder and rain. The last time he did so he saw the man and the horse lying in the road, and the animal's head moved once. At the inquest on the 17th Mr. F. M. Wallis said he found the deceased thrown across the horse on the near side and lying on his back. As he appeared to have been sitting on the tank he would naturally have fallen in that position. There was no sign of disturbance or scuffle in the road, and from the position of the cart and the man he had no doubt that the deceased and the horse had been struck and killed at the same moment. Death had undoubtedly been caused by lightning. The first contact with the electric current was at the back of the head. The hair was burnt off a spot about the size of a five-shilling piece, and the rest of the hair was singed. The current, it appeared, then passed down the spine, leaving a black, charred line of the breadth of about three fingers, until it reached the buttock, where it had expanded and torn off the skin for some distance. There were no other marks on the body. The witness found a nosebag on a tank on which the deceased had evidently been sitting, and a hole was burned right through it, bearing out the theory that the current had passed down the man's spine. Between the tank and the front of the cart were two zinc pails which the lightning struck, both of which were fused. The current then passed through the cart and apparently struck the horse. The jury returned a verdict of "Accidental death

caused by lightning." In answer to a juror, who asked whether it was usual for bodies to be perfectly nude in mortuaries except for a piece of sacking, the coroner said in such cases as the present the body was usually covered with sacks or something of the kind. Mr. Wallis considered such a course did not show proper respect to the dead. He had, he said, lodged a complaint with the medical officer of health and asked him to request the district council to provide a piece of waterproof sheeting for future use.—*The Lancet*, July 25, 1896.

Atropine Poisoning.

The *Lancet* (27th June) is of opinion that there is probably no country in the world which affords so much employment and instruction to the toxicologist as India, and gives publicity to the following case reported by Surgeon-Lieutenant-Colonel J. Duke, in charge of the Sirdarpur Station Hospital in Central India :—

On June 21st a Sepoy aged forty years, who was otherwise in sound health, was admitted for lumbago attributed to a fall from a tree, the patient alighting on his buttocks. On the 25th five minims of liquor atropiæ P. B. (strength four grains to the ounce) were ordered as an injection in the loin to relieve the pain. The injection was given at 4.30 p.m., and fifteen minutes later he complained of dryness of the throat, giddiness, a feeling of intoxication, and distress. At 5 p.m. the pupils were dilated and the body was trembling. He picked at the bedclothes and was restless, throwing his arms about and moaning. If allowed to rise he wandered about, picking at the walls with his fingers. He was conscious and able to answer questions in a drunken manner. At 7 p.m. Surgeon-Lieutenant-Colonel Duke saw him. He was more or less insensible and restless, tossing about in bed and throwing his arms about wildly, his actions being restrained by two attendants. The noisy, pleasing delirium mentioned by Murrell was present. The pupils were dilated, the pulse was full and strong, and the respiration was thoracic and abdominal. He had apparently a desire to micturate, but was unable to do so. At 7.30 p.m. one-sixth of a grain of pilocarpine was injected subcutaneously; no physiological effects followed. At 8 p.m. the same quantity of pilocarpine was given without any physiological effects, but the delirium seemed to be less. At 9.15 p.m. the patient was quieter, but he was still quite unconscious. The pupils were widely dilated. The pulse was now small, thready, and compressible. At 9.45 p.m. one-sixth of a grain of pilocarpine was again injected; there were no physiological effects, but the delirium was much lessened. Mustard plasters were applied with bandages to the calves of the legs. At 10.15 p.m. the following enema was given: rum, two ounces; liquor ammoniæ fortior, five minims; and very hot coffee, one pint. At 10.30 p.m. the patient suddenly became conscious and answered questions. He micturated freely. At 12 midnight he was sitting up; he was a little shaky in his movements, but quite rational and answered all questions. He said that "something had happened to him, but what that something was had gone."—*Lancet*, June 27, 1896.

The Superior Indian Medical Service.

The following extract from an able article in the *Times* of 22nd June last on Indian Affairs, gives some idea of the unfavorable position allotted to medical men trained in what is called the matriculated classes of the Indian Medical Colleges:—

"The journey of medical observation which Mr. Ernest Hart lately made through that country raised questions of importance to the profession alike both in India and at home. The impression left by the subsequent discussion is that the present system of State medical aid in India does not keep pace with the demands upon it. That system is based upon the diversion of a certain number of military medical men to civil employment. The number thus available is necessarily limited, and Mr. Ernest Hart contends that the Indian civil officer is so overwhelmed with statistical returns and office cares as to leave him neither time, nor energy, nor strength for his strictly medical work. Such statements, although containing a large element of truth, may be overestimated. In India almost every civil officer is overworked. The whole system of Indian administration is one of high pressure. It is provided with all the safety valves of furlough, sick leave, and compulsory retirement at a comparatively early age, which such a high-pressure system requires. But the complaint against the methods of recruiting the civil medical staff in India does not arise alone from its inadequacy in regard to numbers. It is urged that the method of selection not only tends to drain the military medical staff of its best men, but also to discourage medical education throughout India itself. For full forty years a succession of trained medical men has been issuing from the Indian medical colleges. During the second half of that period many of these doctors have been very highly trained, while many others have come to England for a further training and a British degree. The present system, it is complained, provides an inadequate number of expensive officers diverted from their military work, and ignores the large supply of less expensive but perhaps not less competent medical men trained in the Indian medical colleges. The question of medical administrative reform becomes more pressing with the development of municipal sanitation and public hygiene in India. Influential meetings have been held in the various provinces, and a delegate has been appointed to represent the case in England. This gentleman, Dr. K. N. Bahadurji, M. D., completed a distinguished academic career in India by taking the degree of the London University. If he can establish to the satisfaction of the profession at home the points put forward at the public meetings in India, he may render no unimportant service to both countries. He is, at any rate, sure of a fair and courteous hearing."—*Brit. Med. Jour.*, June 27, 1896.

Word-Deafness and Depressed Fracture.

In the *American Medical News* Dr. J. T. Eskridge records a case in which mind-deafness and word-deafness were the result of a blow on the head, followed by fracture of the skull and subcortical hæmorrhage. The patient, aged twenty-three, was a native of Bohemia, in

which country he had lived until he went to the United States at the age of thirteen. After arriving there he attended school and spoke English fluently. He was hit above the left ear with either the butt of a revolver or with a coupling-pin and fell to the ground. He was admitted to hospital a few hours later in a dazed and confused condition, but he answered questions in English slowly but intelligently. The next morning he was able to give some details of his injury, but in the afternoon he ceased to be able to speak in English, and only uttered disconnected words and meaningless phrases in the Bohemian dialect. It was at this stage that Dr. Eskridge first saw him. His temperature was about 99°F., the pulse was 60, and the respiration was 18 and regular. There was no paralysis, the reflexes were not materially altered, and the fundi oculorum were normal. When spoken to he seemed to hear and would answer in Bohemian or English using words entirely irrelevant, and he was apparently unable to recognise objects. Operation was resorted to at once, the lesion being supposed to be situated in the left temporo-sphenoidal lobe. A depressed fracture was found with the bone lying against these convolutions, but there was no extravasation of blood and it was supposed that there was no other lesion. The speech disturbance, however, did not improve. A few days later general convulsions began. Dr. Parkhill resolved to re-open the wound. The dura mater was exposed and was found covered with recent exudation. This was scraped away. Still the pulsation of the brain seemed less than it should be and the brain substance was incised and masses of dark, partially clotted blood were cleared out. Improvement soon followed and the mind-deafness soon disappeared. The word-deafness, however, remained for at least three weeks longer, but ultimately recovery was complete. One point is of interest—viz., that as he recovered, his failure of memory for his Bohemian mother tongue persisted longer than that for his acquired English. During his delirious state he spoke almost exclusively Bohemian, and as this began to subside English was substituted. It was not until several days after recovery appeared to be complete that he volunteered the information concerning the difficulty experienced in thinking in his mother tongue. But during the five years he had spent in Colorado he had little or no occasion to speak Bohemian, and in the previous years in the United States he had spoken only Bohemian at home, and English at school and with his playmates. Dr. Eskridge then explains the apparent peculiarity. In his normal condition he could talk best in the language which he used most—that language which he had employed almost exclusively for a number of years. In his delirious state the cells reproduced the impressions made upon them when they were most impressionable and Bohemian was the language employed. After this had passed off he was left weak, and voluntary recollection was best for those things with which he was most familiar at the time.

—*Lancet*, July 4, 1896.

Curantur vs. Curentur.

Just one hundred years ago Hahnemann published in Hufeland's

Journal an essay on a new principle of exploring the healing forces of medicinal substances in which he proclaimed for the first time the great discovery of the homœopathic law of 1790 in the following words: "Jedes wirksame Arzneimittel erregt im menschlichen Körper eine Art eigner Krankheit eine desto eigenthümlichere, ausgezeichnetere und heftigere Krankheit je wirksamer die Arznei ist. Man ahme die Natur nach welche zuweilen eine chronische Krankheit durch eine andre hinzukommende heilt und wende in der zu heilenden (vorzüglich chronischen) Krankheit dasjenige Arzneimittel an, welches eine andre, möglichst ähnliche künstliche Krankheit zu erregen im Stande ist, und jene wird geheilt werden; *Similia similibus*." (Kleine med. Scriften v. S. H. Stapf 1829 I, p. 154.)

This is the first time that the formula *Similia similibus* appears. Likewise in 1805 (Hufeland's *Journal*, Bd 26, S. 2, p. 5 and 6) he says: "Und wenn es auch hie und da ein Weiser wagte mit einigen leisen Worten zu widersprechen, und ein *Similia similibus* vorzuschlagen, so ward dieser Einspruch doch nicht geachtet." Both times the "*curentur*" is conspicuous by its absence.

This copula appears no sooner than in 1819 in the introduction to the *Organon* 2d ed. p. 29, in the sentence: "Wähle, um sanft, schnell, gewiss und dauerhaft zu heilen, in jedem Krankheitsfalle eine Arznei welche ein ähnliches Leiden (*homoion pathos*) vor sich erregen kann, als sie heilen soll (*Similia similibus curentur*)." This sentence was repeated unchanged in the introduction to the *Organon*, third edition, page 1, in 1824; and fourth edition, page 51, in 1829. In the fifth edition, page 62, in 1833, the same sentence is also repeated in the introduction without the formula which just before has been given again in the words: "nach dem einzig naturgemässen Heilgesetze: *Similia similibus curentur*."

It is, therefore, quite true, that Hahnemann repeatedly used the Latin formula with the copula "*curentur*," but only in the introduction to the *Organon* where it was transcribed from one edition to another, however, not in the text, and it is significant that not earlier than in 1819 he used the word "*curentur*" whilst at the first proclamation of the new principle in 1796 he added to it the simple motto: "*Similia similibus*."

The explanation is in the construction which the Nestor of Homœopathy puts upon this subject that "Hahnemann always wrote the formula *Similia similibus curentur* thereby giving an imperative and mandatory turn to the phrase." Hahnemann at first was satisfied with the simple motto *Similia similibus*, but when in his progress he met a host of adversaries, the motto assumed an imperative mood. But no where in the text of his *organon* in all its five editions can be found the Latin sentence with the "*curentur*" when he speaks of the homœopathic natural law. Hence the writing of "*curentur*" is by no means binding in the reverence due to the master, and consequently needs no popularizing "for the approaching centennial celebration of the enunciation of this therapeutic rule," because it fails of its object. On the contrary judging from the use of *Similia similibus* for the new principle proclaimed one hundred years ago this motto would rather recom-

ment itself to the celebration approaching, as well as to the inscription intended for the monument to come. This motto might be considered to intimate the wider range of the Hahnemannian principle, since nothing in the world ever moves and has its being except on this universal principle of assimilation, underlying the universal principle of gravitation. Sir Isaac Newton's law of motion,—“Action and reaction are equal and contrary”—finds its proper application in the science and art of healing by adding to the Hahnemannian original writing *Similia similibus* the copula *curentur*. As the positive mood is employed in that grand law of motion, so it should also be employed in the grand law of healing, the homœopathic law, as is already the popular use. “Der indicativus,” says the grammarian Zumpt, “wird gebraucht in jedem Satze dessen Inhalt als factisch oder als Thatsache ausgesprochen wird.” Now the principle of Hahnemann is indicated by the incontrovertible proposition, that like cures like, and admits of no more doubt than the third law of motion, because it is a fact, confirmed by an experience of its application in homœopathic practice for the last hundred years. The use of the copula “*curantur*” seems indeed not quite appropriate since the original meaning of “*curare*” is “taking care,” and in a remoter degree “attending to the sick.” In this sense the copula would be better replaced by “*sanantur*” as far as the principle of healing is concerned. But Hahnemann's sagacity preferred the term “*curentur*” because it included in the acknowledgment of the philosophical principle the therapeutic rule which enjoined the physician to attend to the sick according to his newly proclaimed principle. For this reason the term “*curantur*” recommends itself in preference to “*sanantur*,” as is confirmed by a sentence of Prop. II, 1, 59: “*Omnes humores sanat medicina dolores.*”

The Newtonian law expressed in the indicative mood shows the difference why Hahnemann used the conjunctive. “Der Conjunctivus steht im Allgemeinen dann, wenn ein Satz nicht als Factum sondern als Vorstellung ausgesprochen wird.” “Ferner wird der Conjunctiv als die Form der Vorstellung unabhängig gesetzt zum Ausdruck des Willens. Er vertritt daher in der zweiten oder dritten Person *praesentis* die Stelle eines Imperativs,” says Zumpt. This is precisely the meaning of Hahnemann's “*curentur*” and following these rules perhaps unconsciously the expression of “*curantur*” has been preferred very generally as a broad declaration of principle against the imperative admonition of its application.

Returning to the above mentioned law of motion it might be objected, that the word “equal” has nothing in common with the “*simile*” in Homœopathies. But a little reflection will show their intimate relation. The *Simile* belongs to a series, the highest degree of which the *Simillimum* can be nothing else than the equal of Newton, for no two things or actions can be the same, only equal as they are more or less similar and attain to the highest degree as *Simillima*. Hahnemann was no doubt pretty clear on this point, as appears from two utterances, first in 1810 and last in 1825. In the first edition of the *Organon* 1810, § 13, the following sentence is found: “Gleichartige Symptomen dieser Arznei heben Symptomen gleicher Art in dieser

gegebenen Krankheit auf." And in the first volume of the *Chronic Diseases*, 1828, at the end is said: "Denn zwischen *idem* und *simillimum* giebt es für den wer nachdenken kann kein Zwischending oder mit andern Worten, zwischen *idem* und *simile* kann nur *simillimum* zwischen innen liegen. Isopathisch und *aequale* sind missdeutliche Ansdrücke die wenn sie etwas Zuverlässiges bedeuten sollen nur *simillimum* bedeuten koennen, weil sie kein *idem* sind." Last but not least we find in the fifth edition of the *Organon*, 1833, in the note to § 56: "Man moechte gern eine vierte Adwendungsart der Arzneien gegen Krankheiten erschaffen durch Isopathie wie man's nennt, nämlich mit gleichem Miasm eine gleiche vorhandene Krankheit heilen. Aber gesetzt auch, man vermöchte dies, was dann allerdings eine schatzbare Erfindung zu neunen wäre, so würde sie die Heilung, da sie das Miasm nur hoch potenzirt und so folglich gewissermassen verändert dem Kranken reicht, dennoch nur durch ein *simillimum*, dem *simillimo* entgegengesetzt bewirken." From these quotations it is evident that the *aequale* of Newton and the *simillimum* of Hahnemann are different expressions of the same concept, and hence the "aller wahren Heilung von jeher zu Grunde liegende homoeopathische Naturgesetz" is the third law of motion in its application to Medicine. Hahnemann though giving no definition of *simile* says decidedly and repeatedly that symptoms of disease are healed by remedies which can produce the similar symptoms on the healthy.

Now it stands to reason that the more similar the symptoms are the greater will be the chance of healing, and consequently the most similar or the *simillimum* or the equal must be the most successful in restoring health to the sick. In this sense the "missdeutliche Ansdrücke *aequale*" or equal receives its proper value in philosophy as the highest degree to which things and actions can become similar, short of the *idem*.

It should, therefore, recommend itself to use the motto *Similia similibus* first proclaimed by Hahnemann in the afterwards generally adopted complete form: *Similia similibus curantur*, and thus finally to lay the ghost of that ever recurring controversy about a matter which is attributed to it.—*The New-England Medical Gazette*, June.

CLINICAL RECORD.

A Case of Diarrhœa and Fever.

By DR. HEM CHANDRA RAY CHAUDHURI, L.M.S.

The husband of a Hindu lady, aged about 30, called me to treat his wife for diarrhœa and fever in the afternoon of the 19th July 1896.

She was under my treatment for a similar complaint sometime previously. The diarrhœa was of a different character then. She was very nearly cured. There was only some sore mouth remaining. Losing patience and by the advice of others she had been placed under the treatment of a Kabiraj who had administered a number of drugs of which asafœtida was one.

I advised her to take camphor water for the night.

20th. Saw her in the morning. The temp. was 101.°F. ; she had 12 stools during yesterday and night. The stools were yellowish. As the time when the fever comes on was early morning I prescribed *Spig.* 6.

21st. Fever came on in the morning as before. Temp. 100 F. The stools were also 12 in number during day and night yesterday. The following were the prominent symptoms :

1. Gurgling in abdomen as of water.
2. Yellowish green stools.
3. Sudden expulsion but not with force.
4. Pain in the hypogastrium before stool, relieved after it.
5. The stools were frothy.

Finding that most of the symptoms agreed with *Podophyllum*, I ordered the medicine in the 6th dilution every four hours till four doses were taken.

22nd. The temperature stood during whole of yesterday and this morning at 99 F. She had only six stools but the quantity was decidedly less. The character of the stools was the same as before.

23rd. Temp. 99. The stools were 4 in number, one during the day and three at night. The color was more yellowish than green. Continued the medicine.

24th. Temp 98.6. She had passed three stools, two during night and one during the day. The stools were rather thick and decidedly yellow. Continued the same medicine.

25th. Temp. 97.4. She felt some appetite. The stools were passed only during night and were two in number. I gave her *Puls.* 3. All this while she was taking soup, barley, or arrowroot. Knowing that liquid food would not make the stools consistent I allowed her rice (a very small quantity, not more than half an ounce) with *magar* fish soup.

26th. The stools were consistent but she passed two during night. Her appetite was gradually increasing. The sore in the mouth was reduced to one third. The same medicine was continued.

27th. She was feeling much better than before. The stools were two in number during the early morning. *Placebo.*

28th. She was much better than yesterday. She has passed one

stool but it was not yet formed. *Placebo*. The pulp of roasted unripe Bael fruit to be taken in the morning.

29th. Had one normal stool in the morning. Was doing well also in other respects. She was importunate for a gargle for her sore mouth. Ordered Permanganate of Potash gargle. *Placebo*.

30th Had one loose stool and was not feeling easy. *Puls.* 3. Gargle discontinued. After this she was well.

Remarks.

The effect of *Podophyllum* was most marked. It decreased the fever as well as the diarrhoea. *Pulsatilla* also had a share in bringing about the cure, but the completion of it rested with the Bael fruit. The gargle evidently did not agree.

A Case of Sloughing of the dorsum of the Tongue.

BY DR. MAHENDRA LAL SIRCAR, M.D.

A Hindu lady, aged 55, was placed under my treatment for sloughing of the whole of the dorsal surface of the tongue, on the 14th June last. I was told that the disease commenced only ten days ago as a white spot in the middle of the tongue. The slough was whitish in appearance, thick, and firmly adherent. There was not much fœtor. The submaxillary glands were swollen and inflamed. There was in the beginning considerable swelling of the tongue and lips, but it was much less now. The gums were painful, but not swollen or ulcerated. She had suffered similarly about 15 years ago, and was cured under my treatment, but I have entirely forgotten the medicines I had given then. I now prescribed *Acid Nitric* 6x, one drop for a dose, twice daily. Diet: Milk.

17th. Visited her in the morning. Found the slough separating, and the glands less swollen and painful. Continued medicine and diet.

1st July. Visited. The slough has completely separated. Patient better in every respect. Cont. med. and diet.

19th. Found the ulcer nearly healed. The surface of the tongue still very raw. *Sil.* 12.

She was quite well in the course of a few days.

Remarks.

There was no history of syphilis, and I could not trace how the extensive sloughing did originate. There must have been some irregularity of diet, or more probably some excess of lime in the prepared betel which the natives of India are in the habit of chewing, especially after meals. But I could get no clue as to what was the real cause from either the patient or her attendants. The effect of Nitric Acid was almost magical.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.
133. KALI CHLORICUM.**

Constipation :

1. St. very dry, at last mixed with mucus and blood.
2. St. harder than usual. St. hard and dry.
3. St. very indolent, delayed ; only occurring at 11-30 P.M.
4. Torpor of intestines indicated by costiveness, attended with a moderate degree of hæmorrhoidal protrusion.
5. Usual evening st. is omitted.

Diarrhœa :

1. Violent D., always liquid, afterwards only mucus.
2. Painful D.
3. Copious alvine evacuation, which resembled the operation of a full dose of a refrigerant purging salt.
4. Fæces soft, without pain during evacuation.
5. St. somewhat thinner than usual.
6. Liquid sts., with pain in pelvic region.
7. Thin liquid st.
8. Fæces lighter colored than natural.
9. Fæces often tinged with green.
10. Pain in abdomen and D.
11. Constant desire for st., with normal evacuation.
12. Pain in pelvic region recurs after repeated doses, and continues with D.
13. Copious greenish discharges, obstinate vomiting and collapse.

Dysentery :

1. Roaring in ears, with a painful bloody st.

During St. :

1. Pain in pelvic region.
2. Moderate degree of hæmorrhoidal protrusion.
3. Pain in abdomen. 4. Roaring in ears.

Rectum and Anus :

1. A troublesome degree of hæmorrhoidal protrusion took place immediately and was not subdued for ten days.
2. Persistent pain in rectum. 3. Urging to st.

General Symptoms :

1. Ill-humor without cause, following great liveliness. Confusion of head. Congestion of brain to such an extent, that one-half of head, face and nose felt paralysed.
2. Appearance of light before both eyes, when coughing or sneezing. Sneezing with violent catarrh and profuse secretion of mucus. Nosebleed.
3. Blue lips. Tongue, white. Most acute ulcerative and follicular stomatitis. Whole mucous surface was red and tumid, and in cheeks, lips, etc., were numerous grey-based ulcers. Profuse secretion of acid saliva. Taste, sour, saltish, bitter. Taste as of blue vitriol immediately.
4. Dryness of throat. Difficult swallowing. Paroxysms of ravenous hunger disappearing after drinking fresh water,

afterwards loss of appetite. Eructations. Pyrosis. Nausea. Incessant vomiting. Cardialgia. Cutting in stomach. Sensation of weight, fulness, and distension in region of stomach.

5. Frequent moving about in abdomen with inclination to diarrhœa. Flatulence. Inability to sleep on account of flatulence and epigastric distress. Gripping in abdomen.
6. Frequent micturition. Hæmaturia. Urine, turbid, deposits urates. Suppression of urine. Urine albuminous. Nephritis.
7. Violent, almost audible beating of heart, oppression of chest, and cold feet. Pulse unequal at the wrists; full in right, small in left.
8. Terrible convulsions, followed by death. Rheumatic pains in different parts of body.

Remarks : KALI CHLORICUM, as may be seen from the symptoms, may be useful in both constipation and diarrhœa. In constipation when the stools are hard and dry and at last mixed with mucus and blood, or when they occur only at 11-30 p.m., or are attended with hæmorrhoidal protrusion. In diarrhœa when the stools are lighter colored or greenish, attended with obstinate vomiting and prostration, with pain in pelvic region. The presence of ulcerative stomatitis, or albuminuria, or both, would be additional indications for the drug. The disappearance of ravenous hunger after a drink of water seems to be a characteristic, and should be taken advantage of.

134. KALI CYANATUM.

Constipation :

1. Bowels obstinately constipated.

Diarrhœa :

1. Fæces come away involuntarily.

General symptoms:

1. Inability to recollect certain words (aphasia). Stupor. Loss of consciousness. Violent vertigo, accompanied with swooning.
2. Eyes fixed and staring or turned upwards. Eyelids began to open and shut alternately, eye ball stared in different directions. Eyes closed but on raising lids, balls were seen to be in uninterrupted convulsive motion. Chorea of ball. Pupils dilated and insensible to light. Cornea insensible to touch. Obscuration of vision, with difficulty features of those near him were distinguished. Double vision after return of consciousness. Ringing in ears.
3. Bloody mucus from nose. Blew pure blood from nose. Looked pale and exhausted. Face livid and bloated. Reddish froth covered mouth and nose. Jaws spasmodically, firmly closed.
4. Lips and mucous membrane of mouth pale. Frothing at mouth. Power of speech lost but intelligence preserved. Teeth, gums, and lips covered with sordes. Tongue has peculiar darkish back ground, seen through heavy white coating. Breath extremely fœtid.

5. Feeling of constriction about fauces, with muscular tremors about throat, could swallow as soon as large amount of fluid filled pharynx, after every swallow body was seized with convulsive tremors and flushes of redness overspreading face.
6. Appetite good but no hunger before eating. Trouble in stomach passed off with eructation of wind, coming up easily and involuntarily, leaving only slight soreness about œsophagus. Vomiting, followed by return of consciousness. Vomited matter was light blue or greenish. Severe burning in stomach. Pain at epigastrium of griping, intermitting character.
7. Feeling as if bowels were about to act. Severe dull tearing in bowels, beginning in region of bladder, and running quickly over whole abdomen towards outer surface, and extended as far as stomach.
8. Bladder distended by a large amount of urine, which had to be evacuated with catheter. Involuntary urination.
9. Loud mucous rattle. Slow and difficult breathing. Breathing slow and noisy, inspiration quick, expiration slow and prolonged with loud groaning noise. Breathing very slow and spasmodic, white foam from mouth, and jaw fixed. Respiration slow and stertorous. Respiration heavy and laboured producing blowing of bubbles at mouth. Respiration nearly suspended, but thorax was convulsively raised, at irregular intervals, far enough apart. Struggled desperately for breath and horrible conviction of impending suffocation.
10. Palpitation of heart. Pulse scarcely perceptible, slow and irregular. Pulse imperceptible at wrist. Limbs rigid and convulsed. Sphincters rigidly contracted, or paralyzed. Epilepsy. Exhaustion.
11. Seized with convulsions and became collapsed and rigid, pulse at wrist being imperceptible, though slight action of heart could be felt. Sleeplessness. Body covered with cold clammy sweat.

Remarks : So far as observed KALI CYANATUM has produced both obstinate constipation and involuntary stools, and may be used in these conditions when the other symptoms correspond. But the chief use of KALI CYAN. is likely to be in cholera in conditions similar to those described under HYDROCYANIC ACID, where there is danger of impending death from stoppage of the respiration which is very slow and spasmodic. It is difficult to distinguish between the two drugs, unless it be in the character of the respiration which has prolonged *inspiration* in HYDROCYANIC ACID, prolonged *expiration* in KALI CYANATUM. There are cases of cholera in which the patients lie in a state of unconsciousness to be roused only when a vomiting takes place. These cases may be benefited by KALI CYAN. In HYDROCYANIC ACID there is general relief from all symptoms after vomiting. In case of failure with one drug the other may be tried.

135. KALI IODUM.

Constipation :

1. St. hard. First hard, then soft st., preceded by colic.
2. St. very hard ; with extreme exertion few small fœces can be passed ; after 5 days sts. became natural and more frequent.

Diarrhœa :

1. Serous D., unattended by febrile action.
2. Purging and vomiting at the same time ; purging lasted several days, notwithstanding exhibition of demulcents and opiates.
3. Light green and yellow watery sts.
4. Sudden distension of abdomen as if it would burst, disappearing after emission of flatus, afterwards D. in morning after waking.

Aggravation :

1. Morning.

Before St :

1. Colic.

During St :

1. Tenesmus. 2. Weakness.

After St :

1. Disappearance of painful distension beneath umbilicus.

Rectum and Anus :

1. Inflammation and swelling of rectum and anus.
2. Hæmorrhoids, with very painful pimples at anus.
3. Great itching at anus, especially at night.

General Symptoms :

1. Sadness. Anxiety. Great irritability, and unusual harshness of demeanour. Vertigo. Violent headache with heaviness, disappears after rising. Pain in upper part of head, as if it would be forced asunder ; that part of head is hot to touch, though he is generally chilly and relieved by external warmth. Scalp is painful on scratching, as if ulcerated.
2. Sunken eyes surrounded by blue rings. Obscuration of cornea as if covered by cataract. Vascular injection and tumefaction of conjunctiva and infiltration of submucous cellular tissue, giving rise to chemosis of eye and œdema of eyelids. Pupils dilated, with constant motion of eyeballs. Vision dim and foggy, objects indistinctly seen.
3. Acute coryza, great redness of mucous membrane of eyes, nose, throat, palate, with profuse lachrymation, violent sneezing and running of water from nose. Profuse discharge of thick yellow mucus from nose. Violent nose bleed. Profuse burning water from nose, making skin sore. Loss of smell.
4. Paleness of face. Yellow bilious complexion with black circles around eyes. Blister on tip of tongue with burning pain. Very offensive odor from mouth which makes herself nauseated. Dryness of mouth. Copious salivation. Taste, rancid, metallic, bitter, sweet, saline ; or no taste like straw.
5. Feeling of dryness and itching in throat, with burning at

- epigastrium, copious salivation, running from nose, intense injection of conjunctivæ and lachrymation. Glands in neck enlarged.
6. Bulimy. Anorexia. Thirst, whole day and even at night. Frequent gulping eructations of air. Nausea. Vomiting, with accumulation of saliva. Burning and pressure in stomach, relieved by eructations, but immediately returning.
 7. Gripping and burning about umbilicus. Loud gurgling in abdomen, especially in stomach, audible at a distance. Great emission of flatus.
 8. Considerable increase of urine, disappearance of uric acid sediment, and increase of ammonio-phosphate of magnesia. Elimination of urea decreased.
 9. Emaciation. Trembling. Great general debility. Restlessness. Sleeplessness. Nightmare.

Remarks : KALI IODUM has produced both constipation and diarrhœa, and therefore may be used in these conditions. In constipation when the stools are first hard and then soft, preceded by colic, and passed with extreme exertion. In diarrhœa of a serous character, light green or yellowish in color, attended with vomiting, and distension of the abdomen. The other concomitant symptoms are either bulimy or anorexia, with thirst day and night, and loud gurgling in abdomen audible at a distance. KALI IODUM would be particularly useful in cachectic constitutions with glandular enlargements and great emaciation, especially when shattered by the syphilitic poison and large doses of mercury.

THE TREATMENT OF URÆMIA.

By W. C. GOODNO,

Professor of Pathology and the Practice of Medicine, Hahnemann Medical
College and Hospital,
Philadelphia, Pa.

Few groups of serious symptoms have been less under control of medicines than that one represented by what is still called uræmia. I am not aware that any considerable number of cases of this character, occurring in the experience of any single observer, have been successfully treated by the use of a single remedy unaided by accessory measures. The object of the present communication is to show that even when associated with advanced stages of renal disease, uræmia is controlled in a most remarkable degree by the arsenite of copper. After observing the influence of this remedy upon several cases of uræmia I called the attention of some of my colleagues to its value with the request that they employ it in all cases, unaided by any other treatment, with the result that a considerable number of cases have been reported to me, from which I have selected a few for publication. As it is desired to curtail the length of this paper the cases are reported in the most concise manner possible.

CASE I. Boy of eight years. Came under my care in the ninth week of a post-scarlatinal nephritis. Vomiting had been most obstinate during the early weeks. There had not been the slightest trace of œdema at any time. The urine, which during the entire course of the attack had been very scanty and contained much blood, was highly albuminous and presented an abundance of granular and blood casts. The amount was reduced to half an ounce *per diem* during a number of days preceding my first visit, during which time he had been almost continually in convulsions. He had been under the care of a physician of the old school, who is eminent as an author upon renal affections, and who had stated that a fatal result was probably inevitable. Although at his worst at the time of the institution of the arsenite of copper treatment, the convulsions ceased within three hours and an uninterrupted convalescence followed. The amount of urine promptly increased, the quantity for the twenty-four hours following the first dose of the medicine being about four ounces. Albumin did not disappear from the urine, however, for nearly two months. His recovery is perfect.

CASE II. Boy of fifteen years. Admitted to Hahnemann Hospital from a small old school hospital in a neighboring town. Had been in bed over two months. There was enormous anasarca, a large effusion into the left pleural sac, marked anæmia and great feebleness. About twenty ounces of urine were passed in the twenty-four hours, containing about six per cent. of albumin. The total excretion of urea for the twenty-four hours was less than one hundred grains. Immediately after his admission, troublesome vomiting occurred, followed by convulsions, which were treated with various remedies before I saw him. Four hours of the arsenite of copper treatment resulted in a cessation of convulsions, followed by a rapid in-

crease of the urinary secretion which amounted to one hundred and ninety-eight ounces upon the third day of the treatment. This free excretion continued until the total disappearance of the dropsy, including the pleural effusion. Convalescence was uninterrupted except by a slight return of œdema, developed in consequence of imprudent exercise and premature exposure.

CASE III. Man forty-seven years old. Seen in consultation with Dr. Kennedy, of Lansdowne, Penn. Twelve years previously this gentleman had had general dropsy, receiving a diagnosis of parenchymatous nephritis from an eminent specialist in renal disease. The symptoms gradually diminished, but he was left with urine of low specific gravity, which was occasionally albuminous and persistently low in urea. During the past few months there had been marked failure of general health, and frequent often troublesome vomiting. During the preceding week blindness had developed, and there was nearly complete suppression of urine. For the previous twenty-four hours convulsions had occurred at intervals of one half to one hour. Arsenite of copper in the second decimal trituration was administered with the result of a cessation of the convulsions and of the vomiting within three hours and the passage of a pint of urine during the succeeding twenty-four hours. Consciousness was fully recovered and for several days it seemed probable that the patient might be relieved for a time but the amount of urine again gradually decreased, and the patient sank into coma and died, but without return of convulsions.

CASE IV. Dr. J. Hubley Schall, of the Brooklyn Homœopathic Hospital, reports to me the following case: Male patient thirty-eight years of age, who had a year previously been under treatment at the hospital for chronic interstitial nephritis, was again received into the hospital with symptoms indicative of an acute parenchymatous development. He seemed to be progressing fairly well for some days, but on June 16th, 1895, he complained of nausea, his heart's action was observed to be weak, and the temperature fell to 97.1° F. There was general anasarca and a reduction of the urine to about twenty-six ounces in the twenty-four hours. Drowsiness developed, also dull pains in the occiput, vertigo, and a dusky countenance. He imagined he saw objects not present. The skin was cool and the muscles twitching. At this stage four grain powders of the third decimal trituration of the arsenite of copper were given at frequent intervals, a hot pack applied and stimulants administered in small quantities. After the fourth powder the respirations were diminished in rapidity, the muscular twitchings were less frequent, the mental condition improved, also his general appearance. There was quite profuse sweating. Improvement from this time onward was continuous.

Dr. I. G. Smedley reports the following cases:

CASE V. A gentleman 40 years old, who gave a history of having passed bloody urine six months previously, was attacked while upon a railroad

train with headache and mental confusion followed by convulsions. Twenty-four hours later he was found comatose. There was no dropsy. The amount of urine was greatly diminished, highly albuminous and contained granular and hyaline casts. Arsenite of copper, second decimal trituration, was administered followed by prompt improvement and ability to recognize friends within a few hours. There was no return of coma or convulsions. The remedy was administered at lengthened intervals with continuous improvement in general health as well as of a retinitis which existed. He is now able to read. Two months after the occurrence of the convulsions two urinary analyses were made by Dr. P. Sharpless Hall, who reports that he was unable to find casts or other abnormality of the urine.

CASE VI. Puerperal convulsions. Primipara. Normal labor, followed in one hour by convulsions which were repeated every fifteen minutes. Unconscious between attacks. After four hours continuance she was seen by Dr. Smedley, who found the urine almost suppressed. One-half ounce drawn by catheter was coffee-colored and became nearly solid upon boiling. There was an abundance of granular and hyaline casts. Arsenite of copper in the second decimal trituration was given every half-hour followed by immediate lengthening of intervals between the convulsions and their cessation within three hours. The same remedy was continued for about six weeks with the result of complete disappearance of the albumin and a close approximation of the urine to the normal standard. This case was considered as especially grave. The urinary analyses were made by Dr. Hall.

CASE VII. Primipara. Normal labor, followed by convulsions in forty-eight hours, the patient having felt comfortable during this period. The urine was found to be very scanty, containing much albumin and granular casts. At the time of Dr. Smedley's visit the convulsions were occurring every twenty minutes, the patient being comatose in the intervals. After arsenite of copper, second decimal trituration, the convulsions promptly decreased in severity, the intervals were lengthened and the convulsions disappeared within five hours.

CASE VIII. The following interesting case was reported to me by my colleague, Dr. O. S. Haines: A woman 30 years of age was admitted to the Hahnemann Hospital suffering from poisoning due to taking a large amount of corrosive sublimate. Energetic measures protracted her life long enough to permit the development of violent dysenteric symptoms. The urine which was loaded with albumin, became more and more scanty and contained myriads of granular casts. For three days no urine was passed, but a few drops secured by means of the catheter were loaded with casts and granular matter and became solid upon the application of heat. Her condition was considered hopeless when the arsenite of copper in the second decimal trituration was administered, followed by the discharge of three or four ounces of urine within the succeeding twenty-four hours. The general condition gradually improved from this time and the patient fully recovered.

In the use of arsenite of copper for the treatment of uræmia I have been impressed by (1) the prompt action of the drug, convulsions ceasing in most instances within three or four hours of its administration : (2) the failure of even fatal cases to subsequently develop convulsions : (3) the influence of the medicine over the quantity of urine excreted : (4) its favorable action upon the further course of the nephritis : (5) its failure to do any appreciable good in two cases of uræmia which were unaccompanied by convulsions.—*The North American Journal of Homæopathy*, June 1896.

Acknowledgments.

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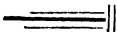
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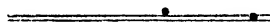
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THE
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VOL. XV.]

August 1896.

[NO. 8.]

STATE OF HOMŒOPATHY IN INDIA, WITH
ESPECIAL REFERENCE TO THE
PERIOD 1891-96.*

Dear Colleagues,

At the invitation of our esteemed and beloved General Secretary, Dr. Richard Hughes, I beg to submit to you a short account of the state of Homœopathy in India during the last five years. I have been asked to restrict myself to this period, the previous periods having been reported on. I had myself submitted a report from the earliest appearance of homœopathy in India to 1881 at the second International Homœopathic Convention held in London in July 1881. Dr. P. C. Majumdar had sent in a report covering the period 1881-1886 to the third Convention held in Basle, Switzerland, in August 1886. And Drs. Brajendra Nath Banerjee and Pratap Chandra Majumdar had sent in separate communications to the fourth Convention, which was called the fourth International Congress, held in Chicago, U.S., in May to June 1891. Dr. Banerjee did not confine himself to the period 1886-1891, but took a general survey of the history. Dr. Majumdar gave that history in continuation of what he had written in 1886.

* Written for the International Homœopathic Congress of 1896.

It may appear strange that I made no contribution, in the shape either of history or of the results of my experience, to the two last international gatherings of our school. It was not because I had ceased to take any interest in homœopathy, or because being generally in bad health and having a multiplicity of duties to perform I could not devote sufficient time and attention to homœopathy to be able to do anything substantial and creditable, that I did not take any part in the transactions of these two congresses.

No, dear colleagues, none of these circumstances was the cause of my voluntary effacement. Ever since my eyes were opened to the truth in homœopathy, I have been devoting myself heart and soul to its study and its advancement in my country. The first professional man in India to adopt it in my practice and publicly to declare my faith in it, I had the honor of suffering for its sake a little martyrdom in the shape not only of loss of professional reputation of which I had a pretty good share for a young old school practitioner, but of absolute annihilation of all income, so that starvation stared me in the face for a not inconsiderable time.

But conviction of the truth and the firm belief that it will prevail kept me on; and I had soon the satisfaction of being able to give permanency to the good work which was so nobly begun by the late Babu Rajender Dutt but which from want of regular professional support was gradually declining in value and threatening to come to an end.

Indeed the public confidence in homœopathy, which began after the conversion of a "regular," was maintained by the publication of a journal without a sectarian name (*Calcutta Journal of Medicine*) devoted to its cause, and homœopathy has now spread from Calcutta as the centre reaching the remotest confines of India—from Nepal on the north to Ceylon on the south, and from Quetta on the west to the newly acquired territory of Burmah on the east.

If such is the fact, what was it then which prevented me from writing about homœopathy for the two last congresses. It was, I regret to say, no other than the unsatisfactory state of homœopathy in my unfortunate country which forbade me from saying anything about it. Facts did not permit me to give a

bright account of homœopathy in India, from a professional point of view, and I was reluctant to present a gloomy, unsatisfactory account which, if facts had to be respected, was also likely in some points to be a disagreeable account.

Has the state of affairs as regards homœopathy in India so improved during 1891-1896 that I may now conscientiously take up my pen to relate satisfactory progress? There has been, I must say, continuous progress from the time I wrote in 1881 to the present time, though that progress has been very slow and unequal. But there has been, I believe, rather greater progress during the last quinquennial period. This, however, is not the only circumstance which has induced me to obey the call of Dr. Hughes. In the midst of apparent progress there is so much that is disheartening that I have deemed it my duty no longer to keep my convictions to myself. A regard not only for homœopathy but for truth and fact in general has urged me to place before this representative assembly the true state of homœopathy in a country which, notwithstanding the departure of its ancient glory, is still for many reasons the most interesting in the world, and which, by virtue of its inherent intellectual and moral capabilities, is still destined to take rank side by side with the most civilized countries, and to help in the development and progress of humanity. And in this I include the advancement of homœopathy as representing the scientific aspect of the healing art. No country in the world has such a rich and vast storehouse of materia medica as India. What a future for our beneficent system when the remedial virtues of such a materia medica will have been revealed by the zeal of Indian physicians in co-operation with philanthropic laymen!

The state of homœopathy in this as in any other country can only be judged of by the following particulars:—

1. The number and character of the practitioners of the system.
2. The organization for teaching it.
3. The hospitals and dispensaries devoted to it.
4. The number and character of the pharmacies for the preparation and sale of its medicines.
5. The societies for the interchange of the experiences and ideas of the practitioners.
6. Its literature in the shape of periodicals and books.

7. The researches that are conducted for its advancement.

8. The aid it receives from government.

I shall take these points seriatim, and shall endeavour to confine my observations to the period 1891-96. Of course whenever I have to supplement or correct any statements previously made, I shall have to go back to the anterior periods.

1. The practitioners of homœopathy in India are referrible to the following classes :—1. Regular professional practitioners, that is, those who have graduated in some recognized medical institution. 2. Those who have studied but not completed their education in some recognized institution. Of this class there are several grades according to the time they had studied in such institution. 3. Those who have taken to the practice of homœopathy after self-study. Of this class there are two sub-classes—those who practise gratuitously, from philanthropic motives; and those who practise for the sake of earning a living.

The number of regular homœopathic practitioners in this country has increased since I last wrote in 1881, but still that number is very small, indeed, might be called infinitesimal, compared with the number of old school practitioners. In 1881 I could not count more than two dozens at the most, Calcutta possessing seven. Calcutta had in 1886 about 15, and in 1891 about 20, according to Dr. Majumdar. Strangely enough he gives that number for Calcutta at fourteen in his address on the history of homœopathy in India before the World's Homœopathic Congress in 1893. This statement, like many others in the same address, is incorrect. The number of homœopathic practitioners at the present moment in Calcutta and the suburbs is not less than thirty. And so far as we have been able to obtain information, that number for all India may be taken to be sixty. So that in fifteen years from 1881 to the present year, the number in Calcutta has more than quadrupled, whereas in all India it has only been two and half times. Hence the history of homœopathy in India is very nearly the history of homœopathy in Calcutta. Bombay and Madras are still without a single qualified homœopathic practitioner, though such a remote town as Rangoon can boast of one. It is gratifying to learn that Delhi and Hyderabad have now each a qualified practitioner.

The number of unqualified practitioners forming our second and third classes has enormously increased, the number under the last being much greater than the number under the second. There is scarcely a village in Bengal where a lay homœopathic practitioner is not found. There is some excuse for men who have passed through some course of medical instruction to practise medicine, but there is scarcely any for those who have no acquaintance whatever with the structure and functions of the human body to undertake to remedy their disorders. And yet in my country nothing is thought easier. Even educated men cannot be made to realize this absurdity. Would it be believed that homœopathic practitioners are manufactured sometimes by correspondence seldom extending beyond one small letter, and sometimes by an hour or even half an hour's conversation, with the manager of a homœopathic dispensary? In this way, I have been told by the manager of a dispensary, that some of the big establishments in Calcutta create a large clientele and thus command an extensive sale! This is only possible in India.

As regards the practitioners of homœopathy who are not duly qualified, that is, who have not passed through a regular course of medical education as required by the advanced state of the science in the present day, my opinion remains unchanged. I know that some of them have taken to the practice of homœopathy from truly philanthropic motives, with the object of placing its blessings within reach of the poor to whom these blessings are inaccessible from want of means, but chiefly from paucity of regular practitioners. But the majority of them have taken to it because they have no other easier means of earning a livelihood and at the same time of gratifying a morbid vanity of being a doctor. As pioneers of homœopathy, as assistants and attendants, these practitioners have their use, and their services are often invaluable. But with few honorable exceptions they do not keep to their level; in proportion to their lack of knowledge they unwarrantably encroach upon the province of the legitimate practitioner, and very often by their vauntings and pretensions they bring unmerited reproach upon homœopathy. It is a matter of very great regret and of no small surprise to us that cases and provings from these men, who do not scruple to

pirate the title of "Dr.," are so readily accepted and published by first class journals in England and America. I wish this were all. America is lending her aid in multiplying our irregular practitioners in a still more potent way, and that is by her homœopathic colleges conferring their honorary degrees of Doctor of Medicine on persons who have not the slightest pretension to medical education. All this is no doubt done from ignorance of the qualifications of these men, but the mischief done is incalculable and irremediable. The audacity and the vanity of these men are heightened beyond measure by the fact of their names appearing in respectable European and American Journals as authors of cases and provings, and still more by the fact of being veritable M.D.s; and thus they are enabled to impose upon their credulous countrymen with greater ease and success.

Sensible lay practitioners deplore this as much as I do. Thus one gentleman, writing from Benares where he has been successfully practising for the last nineteen years, says—"Since its advent here homœopathy has been suffering both in prestige and usefulness from want of a thoroughly qualified practitioner. Not one, amongst so many practitioners both past and present, has been a graduate of any medical college whatever, except the late Babu Harish Chandra Ganguli, who for his highest dilution craze, could not produce much impression here." Another gentleman, from Satara in the Bombay Presidency, regrets the want of satisfactory progress of homœopathy in that part of India, "as due to want of qualified practitioners, the half-educated practitioners, though doing much business, are unable to sustain their work, on which account homœopathy is unnecessarily coming into disrepute." "I give these gloomy details," continues he, "to show what a virgin field this presidency is for some properly qualified homœopathic practitioners."

I would implore my colleagues of England and America to be very careful as to how they deal with any communications they receive from India in the name of homœopathy. They should thoroughly satisfy themselves of the reliability of the sources of such communications, before they deem them worthy of a place in their journals, and their authors worthy of the distinguished recognition which has been so often undeserved. And

then the recurrence of the unpleasant matters, about which I have deemed it my duty to write so plainly, may be prevented, and homœopathy in India may be saved the disgrace that would otherwise be its inevitable lot.

2. Have we any organization for teaching? I wish I could say we had such that could be called worthy of the cause we represent. We have two schools, in Calcutta, one goes by the name of "Homœopathic Medical School, founded by Dr. M. M. Bose, M.D., L.R.C.P. (Edin.);" The other goes by the name of the "Calcutta School of Homœopathy," which Dr. Pratap Chandra Majumdar claims to have founded in February 1883. It is impossible to make out from the latest reports of these schools which was founded first. In the report of the first named school for the year 1894-95 we are given to understand that its 14th working year began on June 15th, 1895, so that it must have been started in 1881. But in the report of the second school for the same year we are told that Dr. Pratap Chandra Majumdar "founded the school on the 15th February 1883, with Babu Sasi Bhusan Mukerji as Secretary and the following gentlemen as honorary lecturers on the subjects noted against their names:— Dr. M. M. Bose—Practice of Medicine, &c."

In his address before the World's Homœopathic Congress in 1893, Dr. Majumdar spoke of only one school thus—"In the year 1883 I succeeded through the help of my friends Dr. M. M. Bose and Babu S. B. Mukerji in establishing our Calcutta School of Homœopathy." He did not make any mention of the other school, though in his history of homœopathy in India submitted to the Congress of 1891 he said, "another school has been started by our friend Dr. M. M. Bose in this city (Calcutta), to teach both students and officers (*sic*). This institution is also in a prosperous state." We know for certain Dr. Bose's school has been existing since its foundation. It certainly did not cease to exist in 1893.

The fact remains that whichever was the first established, it was soon split up into two. So that we have now two schools where we have absolutely no adequate fund and materials for one. Of these schools Dr. Brajendra Nath Banerjee, one of the lecturers of one of them, thus speaks in his paper on Homœopathy in India presented to the Congress of 1891:

"They are all elementary ones. There are no dissecting classes, no laboratories, nor any hospital or dispensary attached to these institutions. The students, however, receive a sound theoretical education, as in the Calcutta schools some of our best men deliver systematic lectures." Some of these best men, we know, are not graduates of any medical school or college.

How without dissections, without experiments, without any arrangement for diagnosis, &c., and with no preliminary scientific education whatever, students can acquire a sound theoretical education in the experimental and most practical sciences which constitute medicine it is impossible to imagine. Hence, though requested in the beginning to co-operate in establishing homœopathic schools without the necessary equipment for proper teaching, I did not feel myself justified in taking any part in what I could not but look upon as mere mockery. For, if we are to have homœopathic schools at all we ought to see that graduates of these institutions are not inferior in medical education to graduates of old school institutions. By setting up so-called homœopathic schools, where the qualification for admission is only the payment of a fee, where no instruction is and can be given in the essential preliminary branches, anatomy, physiology, chemistry, &c., and where instruction in medicine, surgery, midwifery, &c., being conveyed through the vernacular, must necessarily be of most meagre description,—by setting up such schools I am bound, in the interests of homœopathy, to say that my colleagues here are doing, unwittingly of course, nothing but mischief to the cause we have all so dearly at heart. To speak of ignoramuses hurried through these misnamed schools as graduates in medicine and "in homœopathy, cannot but be characterized as a misuse of words, and a sort of imposition upon the public.

3. There are a few charitable dispensaries where poor patients receive gratuitous medical advice and medicine every morning. The oldest is that of the writer, which is existing since 1867. The second is the Bhaduri Charitable Dispensary, which was established in 1892 as a memorial of the late Dr. Bihari Lal Bhaduri. The third was established in the same year by our distinguished townsman Raja Sir Sourindra Mohan Tagore in honor of his mother. A hospital under the name of the Calcutta Homœopathic Hospital was opened in the same year in connection with

the Calcutta School of Homœopathy. The first is under my immediate superintendence; a daily record is kept of new and old patients, from which statistics of attendance may be easily compiled. Such statistics were actually compiled and published in the *Calcutta Journal of Medicine* in 1876 as an argument for the necessity of the establishment of a Homœopathic Hospital and Out-door Dispensary in Calcutta. But the accuracy of these statistics was questioned in a daily paper, and though the invitation was given to the writers of the correspondence and to the Editor to verify the statistics which was the easiest thing to do, the invitation was disregarded, and the malicious attacks were audaciously continued, with the result that the finest opportunity was lost for the establishment of a Homœopathic Hospital on a solid and substantial basis.

I have not been able to get any report of the other two dispensaries of which I have spoken, and I am therefore unable to say what the nature and the quantity of the work are which they are doing. As regards the hospital, I am sorry to find that it has long ceased to exist. This must be the fate of all such institutions when they are established in a hurry, without a knowledge of their requirements, and, therefore, without any provision for their maintenance and proper supervision.

Throughout India there are several charitable dispensaries but they are chiefly if not solely under the care of laymen, among whom, it gives us great pleasure to say, are a goodly number of European gentlemen, some being philanthropic Christian missionaries. That most of these dispensaries are doing a large amount of good to the suffering poor there is not the slightest doubt whatever. But some of them, especially those in Calcutta, are given to so much vaunting and puffing of themselves, and are so unscrupulous in hating philanthropic men of foreign countries, that when found out, as they will be one day, they will be the sources of irreparable injury to the cause of homœopathy in India. Having the report of one of them, called the Calcutta Charitable Dispensary, could find a place immediately after Dr. Majumdar's History of Homœopathy in India, in the Transactions of the International Congress of 1891, I must leave the Secretary of the Congress to answer. On the very face of it the report could not but be that of a layman,

who has displayed an amount of ignorance equal only to his audacity. The founder and physician of the Dispensary is said to be one "Dr." D. N. Banerjee. We know it for certain that there is no *Dr.* D. N. Banerjee in Calcutta. We know of one D. N. Banerjee, who from a clerk has turned a homœopathic practitioner, and who has established a homœopathic dispensary under his own "medical" superintendence, and is trying by hook and crook to obtain support for his "institution." It is described as "the *only* charitable Dispensary in Calcutta which is maintained by private support,"—a statement which is absolutely untrue. Then we are told that it "has been able to secure invaluable help from some most liberal, kind-hearted and renowned physicians, especially of Germany and America," among whom are mentioned "the names of Dr. Willmar Schwabe and Julius Jolly of Germany, Alex. Villiers of Dresden, Santer of Geneva, J. P. Sutherland of Boston, Messrs. Burgoyne Burbidge's and Mellen's food Companies of London, Drs. Burnhart and S. Dey of India!" What is to be thought of a man who ranks Messrs. Burgoyne Burbidge's and Mellen's food Companies (*sic*) with renowned physicians? And yet the report of such a man has found a place in the Transactions of one of our Congresses.

4. Another fair index of the appreciation of homœopathy in India is the number of pharmacies which have started into existence for the sale of homœopathic drugs. Most of these shops are doing profitable business. At the time I wrote for the Convention of 1881, there were about nine or ten in Calcutta, and no others throughout India. The number in 1891 had doubled, being about twenty. Now the number is over fifty, being five times what it was in 1881. Though it is true that the pharmacies in Calcutta, as a general rule, supply the practitioners and even druggists in the mofussil, yet considering that there are a good number of independent pharmacies in various other towns, the number in Calcutta is evidently too large. The effect of this large number must necessarily be keenness of competition, and as profit is the object aimed at, the spirit of trade will interfere with the purity of medicines.

When I speak of pharmacies in India I do not mean pharmacies properly so called, which are under the superintendence of trained and scientific chemists, such as those of Gould and Son

and of Leath and Ross in England, of Willmar Schwabe in Germany, of H. Ecalie in France, of Boericke & Tafel in America, &c. I mean only selling druggists' shops, which do not prepare but import their medicines from Europe and America. None but the lowest dilutions are made, the thirtieths and the higher are all imported. Even the tinctures of indigenous drugs are imported. When I wanted the tincture of *Acalypha Indica* for proving, I had to prepare it myself. The shops had the tincture from foreign pharmacies, and not prepared from the fresh plant so common in and around Calcutta!

5. We have no societies or associations for the holding of meetings with a view to enable practitioners to meet and improve their knowledge by mutual exchange of experiences and ideas and by discussion. We have a Society which was established for the celebration of the anniversary of the birth-day of Hahnemann. Originally established as a Committee under the name of "The Hahnemann's birth-day Anniversary Committee," its name has been changed into that of the Hahnemann Society. Before 1891, the meetings though held only once a year were not regular. Since that year the meetings have been regular. Though its president, I have not been able to convert it into a society for holding meetings other than those for the celebration of the birth-day of the founder of homœopathy.

6. Since 1891 I have not been able to lay my hand on any work on homœopathy that may have been published here in English. Our literature, therefore, during the period under review, is represented (1) by a few works on homœopathy in the vernaculars—Bengali, Hindi, and Urdu, some by qualified medical men, but mostly by laymen; and (2) by two journals, the *Calcutta Journal of Medicine* and the *Indian Homœopathic Review*, which have been revived since 1894. The former Journal, begun in 1868 and completing its eighth volume in 1876-77, was in suspended animation for four years; after which it was revived in 1882. After a regular appearance for two years it existed in a precarious state till the end of 1887, completing three volumes of twelve numbers each. From this time to the end of 1893, the complete break-down of the editor's health with the multiplicity of heavy duties he had in spite of it to perform, prevented him from carrying on his editorial duties. But the extinction of the

latter journal, the *Indian Homœopathic Review*, after 1885, left no medium for the record of the continuance and progress, whatever it may be, of homœopathy in India. This led the editor of the *Calcutta Journal*, though in no better health and not free from distracting work, to revive it for the sake of homœopathy, which was done from the beginning of 1894. This served as a stimulus for the revival of the other journal, and both are continuing their existence to the present day.

In this connection I am sorry to say that we do not get proper support from our colleagues. I know very well from my personal experience that this is due more to want of time than to anything else. Our number being small, and the demand for our services being great, we are all busy men. But still we must not forget that the busiest men work the most, and that we owe a duty to the profession, which means to humanity. If we bear in mind what Bacon said,—“I hold every man a debtor to his profession, from the which, as men of course doe seeke to receive countenance and profit, so ought they of duty, to endeavour of themselves, by way of amends, to be a help and ornament thereunto,”—if we fully understand the significance of these words, we shall look upon it as a part of our duty to keep a record of our experiences and publish them for the benefit of others. And we shall be able to fulfil this duty better if we remember the pregnant saying of the same philosopher—“Reading maketh a perfect man; conference a ready man; and *writing an exact man*.” It is only by the habit of putting in writing what we see and think and feel that we can attain to precision in our knowledge. For it is only when we do this, that we begin to detect the defects of our observation, the want of coherence in our ideas, and the haziness in our feelings.

7. The subjects for research, in which medical men ought to engage, embrace the whole field covered by the healing art with therapeutics as the centre. A new subject of research, almost unknown, at least ignored and neglected by the old school, is the characteristic of the new school of medicine, and this is the pharmacodynamic actions of drugs as revealed by provings on the human subject. The other subjects being common we can well leave their investigation to our brethren of the old school, but the successful investigation of pharmacodynamics is the very life and

soul of our school, and to justify the very necessity of our existence we must carry it on so long as we have not exhausted the *materia medica*, so long as there may crop up human diseases for which no remedy had been found out.

Since the time of Hahnemann and of his immediate disciples, a great deal has been done in this direction both in Europe and in America, but nothing was done in India, till the latter end of last year, when two earnest and zealous believers in homœopathy came forward and at my request proved a drug which we were empirically using on the strength of a solitary symptom experienced by a homœopathic physician in Calcutta upwards of forty years ago. We have now, through the devotedness of Babus Joykissen Ghosal and Gopal Chandra Datta, as full a proving of *Acalypha Indica* as could be done by two individuals. The drug requires further provings for the full and complete revelation of its pathogenetic powers. In the meantime we must be thankful for what has been done, and with your permission I will lay before you the pathogenesis of *Acalypha* thrown into the schema form.

8. There is no Government support to homœopathy in India. When there is no such support in England, it is not to be expected that a subordinate Government, which does not scruple to slavishly carry out the mandates of the government in England, against its own convictions, should have the courage, even if it had the will, to countenance homœopathy against the opposition of a powerful department, the medical service. Under such circumstances, however much to be regretted, the want of official recognition of homœopathy must be, as a matter of course, for it is, in fact, want of recognition by the orthodox profession. It is a matter, however, of extreme annoyance to the few homœopathic practitioners here that the dominant profession should exercise, indirectly of course, its tyrannical influence in matters medical of high officials, which must be looked upon as private affairs. It is notorious that as a general rule officials dare not give offence to orthodox physicians and surgeons who form the service, and consequently cannot openly have recourse to homœopathic treatment, even when convinced of its superiority.

The late Sir Henry Maine was obliged to keep his faith in homœopathy a secret. Even the biggest official, the viceroy himself, is not free from dread of the official doctor. The late

Lord Lawrence, like his colleague the law-member, had to keep his faith to himself. The late Lord Mayo had thought of giving public proof of his belief in the superiority of homœopathy by appointing a professed homœopath to be his physician, but His Excellency received such a snubbing from the *Indian Medical Gazette*, that he was obliged to forego the right of choosing his own doctor!

Very often when hopeless of deriving any benefit from their orthodox attending physicians, a high official secretly places himself under the treatment of a homœopathic practitioner, but as soon as the fact becomes known to the former, somehow or other pressure is brought to bear upon the unfortunate sufferer, especially if he was improving under the new treatment, to go back to the old treatment, or to have recourse to a change of climate, without either of which, he is terrified into the belief, that he will never recover! This was the case with a late chief justice of Bengal. A late vice-reine was known to be in favor of homœopathy, but Her Excellency, though blessed with a numerous family, was never heard to send for a homœopathic practitioner. An ex-commander-in-chief could only act up to his convictions by consulting domestic hand-books. In some cases, as in the one related in the number of the *Calcutta Journal of Medicine* for July 1895, the convictions are only half-hearted, and therefore are not expected to lead to any decisive action.

In connection with homœopathy in India may be mentioned the attitude of the Indian Medical Congress that was held in Calcutta in December 1894. That attitude was not violently antagonistic as might have been expected. There was at one time a desire on the part of the committee of organization not to exclude any duly qualified medical man from taking part in the Congress, and I was even asked to subscribe in aid of the Reserve Fund in case of failure of the ordinary subscriptions to meet the expenses that might be incurred. I of course did subscribe, but I received no invitation to pay my subscription, and at the last hour I received a most flattering letter from the President of the Congress, intimating that I would be appointed an honorary member, as a token of the "highest regard in which the entire profession in India held me for my eminent scientific attainments and for the services I had rendered to the cause of science

in India!" The appointment, strange to say, did not come, and I wrote to the President as follows:—"You will bear with me when I tell you that I look upon my humble services to the cause of science in general in India as but subordinate to the services, however humble or humbler, which I have been endeavouring all my life to render to the science of medicine in particular to which I have dedicated that life; services for which I am now an outcast in the profession, notwithstanding an experience of thirty-five years based upon a careful study of several epidemics of Indian and foreign diseases, and of diseases in general, with special reference to their scientific prevention and scientific treatment;—thanks to these services I am excluded as a regular member of the First Medical Congress held in my own country." I received an apologetic reply, and the Indian Medical Congress passed off without any body, not even Mr. Ernest Hart, breathing a whisper against homœopathy. I am fully persuaded that had Dr. Harvey, the president of the Congress, had his own way, homœopathic practitioners would not have been excluded from it.

Such, dear Colleagues, is a brief, and so far as it goes a faithful, account of the state of Homœopathy in India. I have given facts as they are. As representing the highest truth in medicine, homœopathy can only be advanced by truthful representations and never by false exaggerations. As the latest development of the most complicated science and art it can only be advanced by men thoroughly versed in both. However much laymen may pioneer it, for which we cannot be too thankful, they must give place, when *their* function is ended, to professional men, who alone are competent to take charge of its true progress. It is in this spirit and under this strong conviction I have been working all my life, and I could not swerve from that course in the drawing up of this report, which I trust my colleagues will accept as my humble contribution to the history of Homœopathy in the present day.

[Since the above was written I have found that I made a mistake when I said that Bombay has not a single qualified homœopathic practitioner. Bombay, I am glad to say, has a duly qualified medical man who practises homœopathy. This gentleman is Dr. M. L. Jelovitz. He had at first practised homœopathy there as an unqualified practitioner, and was even as such much patro-

nized. In order to deserve the patronage he thus received he went over to America and graduated at an old school college there and took his degree of Doctor of Medicine in 1885. He came back to Bombay, but only to find that his qualifications availed him not even to secure him the patronage he had previously enjoyed. He is not doing as well as one might have expected. Rich Bombay is quite niggardly as regards Homœopathy. Though pretending to be *primus in Indis* she does not seem to be advanced enough to appreciate the most advanced system of medicine. She is far behind Calcutta in this respect. Our now esteemed colleague, Dr. D. N. Roy, fared no better at Bombay than is Dr. Jelovitz doing. He had to come to Calcutta and is now enjoying an extensive practice. 'Dr. Jelovitz may have to do the same, and we are sure he will meet with a welcome here.

Considering the time that homœopathy has been introduced into this country, its progress has been very slow indeed. That progress can only be accelerated by organized institutions in the shape of duly equipped hospitals and schools for the practical demonstration of its efficacy and the systematic teaching of its doctrines. But the prospect of the establishment of one such institution even in the metropolis which will reflect credit on homœopathy is, so far as I can see, very remote indeed. We require a very large sum of money for the purpose, but with powerful antagonistic influences at work it is next to impossible to collect that sum from the public, unless some generous hearted millionaire steps in and endows the whole institution. It would not be wise to rely upon such a doubtful contingency. Can nothing then be done to advance homœopathy in this country? I think much can be done if all the regular practitioners of the system, small as their number may be, would but do their duty. We are no doubt doing a great deal individually; but I am strongly convinced that if we unite we can do a great deal more both individually and collectively. This union can only be brought about by the establishment of a Society where we can meet to exchange our ideas and opinions and discuss the various problems that may arise in connection with homœopathy and other branches of the healing art. I earnestly invite my colleagues to come forward and help in the good work and hopefully await a favorable response.]—M.L.S.

EDITOR'S NOTES.

Sugar in the Dressing of Furuncles and Carbuncles.

According to T. Richardson (*Sem. Med.*) sugar—which is so frequently employed as a household remedy in the dressing of wounds—has the singular effect of accelerating the softening of furuncles and anthrax. The best method, he states, is to freely powder with it flax-seed poultices, which should be applied hot upon the region affected. Since Dr. R. has adopted this mode of treatment, he has rarely been obliged to have recourse to crucial incision, even in cases of carbuncle.—*New York Medical Times*.

Hereditary Tuberculosis.

Bolognesi (Thèse de Doct., Paris, November 6, 1895) has examined for tubercle bacilli the placenta from thirteen tubercular women, and in several cases the organs of the fetus. Once tubercle bacilli were found in the blood of the mother. In eight cases where the fetus was born dead, or died in a short time, the organs were examined histologically and by inoculation of animals for tubercle bacilli. One hundred and nineteen guinea-pigs were inoculated with the various materials, and also eleven rabbits. Of these, two guinea-pigs inoculated with a placenta from one case died. From these results, together with the experience of former workers, the author concludes that the inheritance of tuberculosis from the side of the mother is usually a disposition ("*héredo-prédisposition*"), while the direct transfer of the bacilli ("*héredo-contagion*") occurs but rarely. This latter may take place (1) if there is miliary tuberculosis of the mother, with tubercle bacilli in the blood; (2) if there is placental tuberculosis which has produced such lesions that the passage of the bacilli is no more prevented; (3) if there is uterine tuberculosis which favors the occurrence of placental tuberculosis; (4) if the amniotic fluid contain bacilli and be swallowed by the fetus.—*The New England Medical Gazette*, July, 1896.

Reasons why the Trommer and Fehling Tests may fail to show Glucose in the Urine.

In testing urine suspected of containing glucose, the precipitation of the cuprous oxide may be prevented by the simultaneous presence of certain other reagents, such as ammonia salts, creatin, albumen, and the products of their decomposition under the influence of sod. hydrox. Experience has convinced me that the absence of a precipitate in the Trommer test does not demonstrate the freedom of the urine from sugar. To find out with certainty whether there is really any glucose in the urine, to bring it out if it is concealed by the above-mentioned substances which prevent the precipitation of cuprous oxide a certain quantity of grape sugar should be added (about 1cc of one per cent. of a solution of grape sugar to 5cc of urine). If substances are present that prevent the secretion of cuprous oxide no reaction will set in even after the grape sugar has been added. In the Fehling test, on the contrary, the presence of certain substances which are apt to produce cuprous oxide in Fehling's solutions, may lead the experi-

menter astray, causing him to think there is glucose where there is in reality none. Such substances are: Uric acid, creatin in abnormal quantities, sugar of milk, allantoin, mucin, brenzcatechin, hydrochinon urobilin and bile. We may also find the cuprous oxide precipitated in the absence of any or all of the above-mentioned substances when the patient has received allopathic doses of benzoic acid, salicylic acid, etc., in sufficient quantities to have been secreted in the urine. To fully confirm the result of a Fehling reaction it will be well to subject the urine to another test, either the optical or fermentation. I have employed the latter for years in my laboratory.—*The Hahnemannian Advocate*, July 15th.

A Case of Abortion.

The death of a poor woman in Derby named Julia Swift has been the subject of an inquest and of much public attention. The circumstances, too, convey a lesson of great importance to medical men which it is well to emphasise. Mrs. Swift had two children and was pregnant with a third. The husband was in prison for assaulting his wife and she dreaded his return home. She was taken ill with symptoms resembling those of an ague fit. In answer to questions by her mother and other women and Mr. Endsor she said she had been to a woman to undergo an illegal operation. She gave the name and date. Neither the date nor the name turned out to be quite accurate, but the error of date was Mr. Endsor's and the name given to the woman was an *alias* by which she was known. But the statements were taken down by Mr. Endsor, assistant to Mr. Pounds, in writing, to which her signature was obtained. She died the day after Mr. Endsor saw her, having been seen by other medical men and by a midwife. The woman named as guilty of the illegal operation was examined, but denied the charge. The coroner said there were few persons in court who had the slightest doubt as to how and by whom the abortion and subsequent peritonitis and death were caused, but that the document put in by the medical man and signed by the deceased in his presence was no evidence. The statements made by the dying woman were not made in due form before a magistrate. In answer to a question in the House of Commons the Home Secretary said the facts were essentially as we have stated them above and that he was in communication with the Public Prosecutor on the subject. We can only hope that the facts may yet be brought to light. Meantime it is well to point out to all medical men that in such circumstances the presence of a magistrate should be procured through the police and important statements should be made to him. We should have said that one or two other medical men saw the patient before Mr. Endsor. One of these, Mr. Fletcher, said he suspected that an attempt to procure abortion had been made and he had to give up attending the case to attend another serious case. The coroner seemed dissatisfied with Mr. Fletcher for not communicating with the authorities to take the depositions. The case raises again the serious question of the duty of a medical man in difficult circumstances and the degree of suspicion that will justify his communicating with the authorities.—*The Lancet* August 1, 1896.

Nitragin.

The resources of bacteriology are seemingly inexhaustible, and its beneficent applications as varied as they are comprehensive, whilst investigations of theoretical interest are daily assuming a practical importance hardly dreamt of by their original discoverers. Little did Hellriegel, Wilfarth, and Beyerinck imagine that when they announced that certain leguminous crops are able by means of root-nodules to fix the free nitrogen of the atmosphere, and that this was accomplished by the aid of particular bacteria contained in such nodules—little did they anticipate that a few years later the great German firm of colour-manufacturers, Messrs. Meister, Lucius, and Brünig, at Höchst-am-Main, would undertake to deliver, as an article of commerce, cultivations of such bacteria under the name of *Nitragin*, wherewith to inoculate, and so supply the wants of, various leguminous crops. This is, however, what Dr. Nobbe, the distinguished follower in the footsteps of Hellriegel, has rendered by his brilliant researches an accomplished fact. Pure cultivations of nodule-organisms suitable to the growth of no less than seventeen different varieties of leguminous field crops may now be purchased from this enterprising firm. Each bottle bears a different coloured label according to the crop for which it is destined, whilst the German as well as the botanical name of the plant is also affixed. About half an acre of land may be inoculated for half-a-crown, which represents the price of a single culture bottle. The cultivations are prepared at the Höchst Works, under the direction of a former assistant to Dr. Nobbe, and the result of this latest development of practical bacteriology will be awaited with the greatest interest. Meanwhile the English Government, whilst contemplating extensive financial assistance to the agricultural interests in the country, might do well to consider whether more lasting benefit to the community might not be derived from the better endowment of science in our local colleges, and the encouragement of original research. It is the lack of this support, which in Germany is fostered so jealously, that handicaps the work, and places the worker at such a great disadvantage when compared with our more fortunate continental neighbours.—*Nature*, August 6, 1896.

The Action of Terebinthina on the Kidneys.

Dr. Pfander, in a paper read before the last meeting of the Swiss Homœopaths on terebinthina, after referring to its action on other organs, discussed its influence on the kidneys, its most characteristic centre of action. Here its pathogenic influence is intense, for the provers complain of a sensation of weight in the renal region with burning and drawing pains, sensitiveness to pressure over the kidneys, tenesmus and cutting pain in the bladder, burning pain on urination, etc., all symptoms pointing to great irritation of these organs. At first the urine is decreased in quantity, but gradually passing on to complete suppression. As long as it is increased in quantity it is light-colored, but as it decreases it grows darker in color, finally to contain blood, even to be nearly pure blood. At the same time it frequently contains a mucous and reddish-white sediment which

consists of blood and renal detritus. Therefore it is indicated in renal hæmorrhages with irritative symptoms as well as in acute nephritis either with or without admixture of blood in the urine. It is more closely indicated where there is considerable desquamation and red blood-corpuscles in the urine, which give it a reddish-black or a so-called smoky appearance, with a blackish sediment forming in the vessel. This condition is most often observed after scarlet fever or diphtheria, and the albuminuria accompanying is usually considerable. Here he has found it frequently of service. The disease is then in its acute or subacute stage. He never has found it useful in the chronic form.

Also in acute cystitis with hæmaturia terebinthina may be valuable, yet cantharis will generally help one better out. Hering recommends it in gonorrhœa with strangury and tenesmus of the bladder, soreness of the urethra, as well as in puerperal nephritis with a burning and a pressing down sensation of the uterus. The drug does not present any decided symptoms in the provings on the sexual organs. It is very striking how near our drug resembles cantharis in its action on the kidneys. Phosphorus is its antidote.

[Kobert (*Lehrbuch der Intoxikationen*, Stuttgart, 1893 ; p. 391) says that turpentine produces a catarrh of the tubuli recti—a renal catarrh. Burt (*Physiological Materia Medica*, Chicago, 1883) claims that the drug is especially indicated in the subacute and chronic forms of nephritis ; if there is no blood in the urine terebinthina will fail.—Eds.] *The Hahnemannian Monthly*, August, 1896.

Bubonic Plague in Hong Kong in 1896.

Sir William Robinson, in his capacity of Governor of the colony of Hong Kong, has sent a very instructive report to the Colonial Office on bubonic plague in the settlement during the present year. To the date of his writing on May 6th there had occurred 675 cases, and of these 602, or a little more than 89 per cent. of attacks, had proved fatal. In 1894 the mortality had been at the rate of 93 per cent. of the cases treated in hospitals. But even this high rate took no account of dead bodies found in the streets, and so the disease of the present year is looked upon as of a milder character than that which prevailed in the year just named. And, again, the mortality of the present epidemic is the more favourable since it is stated that *all* deaths have been heard of, a circumstance not to be thought of as having obtained in 1894. All the patients were Chinese except 22, consisting of 6 Europeans, 4 of whom died ; 15 Indians, of whom 6 died ; and 1 fatal case in a Siamese. The first case arose on Jan. 4th, and up to the close of the month there had occurred 45 cases, deemed to be of a sporadic nature. The disease then increased, as many as 41, 45, 60, and 77 cases occurring in some of the succeeding weeks. In the last complete week reported upon—namely, that ended May 2nd—there were 63 attacks. The disease was therefore still epidemically prevailing at that time. The precautions taken were the removal of every sufferer at once to hospital and the segregation on roomy junks of all the members of invaded houses until the numbers became so

numerous as to make it impossible to continue this practice. The infected houses were taken over by the police and disinfected, cleansed, and the like, and all precautions of disinfection of clothing taken. When it became impossible longer to segregate members of invaded dwellings on the junks the authorities decided to allow residents to proceed to Canton under restrictions. The plague was at this time prevailing also in Canton. The visiting staff at the disposal of the Government was enlarged to cope with the immense strain on the few members permanently engaged, and whilst the antipathies of the Chinese were much less pronounced than in 1894 against the action taken for the purpose of stamping out the disease, still the trouble caused by the desire of the natives to conceal cases and dead bodies was of a kind to call for great tact and patience. So imperative did it seem that steps should be taken to allay suspicion on the part of the Chinese as to the motive which prompted the authorities in the measures they were adopting that it was soon decided to permit the removal of patients, and later even of bodies, by relatives to the mainland under regulation; and whilst this had in some degree at least the result desired, only one patient and only four dead bodies were removed. House-to-house visitation was largely carried on, and the condition of housing of the Chinese found to be of a character calling for the appointment of a commission of inquiry into the question. The plague is classed as a filth disease, and was confined to the poorer classes of Chinese, whose dirty and insanitary habits foster its progress. The accumulation of dirt and rubbish is surprising, and bad ventilation, overcrowding, and inadequacy of light, added to high rents, aggravate such a malady as plague. But in connexion with the disease generally Sir William Robinson holds the view that unless its recurrences can be prevented great harm must accrue to the colony, and he is of opinion that it will be difficult to stay its spread in Hong Kong so long as it continues to prevail on the adjacent mainland. The matter is pressing and problems present difficult of solution.—*The Lancet*, August 8, 1896.

A Curious Idiosyncrasy.

A strongly marked idiosyncrasy has lately come to my notice, which should be recorded. A lady of my acquaintance was walking with a relative, Colonel M., when the wife of a tenant addressed her, and described how the hand of her own child had been pinched in a door. Overhearing her story, Colonel M. became quite unwell, so much so as to lead to particular inquiry, which resulted in showing that allusions to any accidents of that kind affected him at once in a very perceptible way. Finally, at the request of the lady, he wrote an account of his peculiarity, which she forwarded to me. Thereupon I corresponded with Colonel M., who slightly revised what he had written, and sanctioned its publication. It is as follows:—

“From my earliest remembrance, and still up to now, any sight of an injured nail in any person, even if a total stranger, or any injury, however slight, to one of my own nails, causes me to break into a deadly cold perspiration, with feeling of sick faintness. But still

further ; if I chance to hear any one else narrating in casual conversation any injury of this particular sort to themselves or others, it brings on me exactly the same feeling I have described above. So much is this the case, that many years ago, when I was in the prime of life, at a large dinner party, when one of the guests near me persistently chanced to go on talking minutely of some such little accidental injury that had befallen him, I turned very faint, tried all I knew to shake it off, but could not, and presently slid right under the table quite unconscious for the moment. This is the more singular because on no other point am I in the least squeamish. In old days I have seen soldiers flogged before breakfast without its affecting me, though some of the rank and file would be very much upset, and in cases of death, illness, or wounds, I have never experienced, as an onlooker, the sensations I have alluded to above."

I may mention that the mother of Colonel M. had pinched her own finger-nail badly shortly before his birth, and, as is not uncommon in coincidences of that kind she believed her accident to have been the cause of her son's peculiarity. He writes to me :—

"As a boy I was conscious of this repugnance of mine, but was ashamed of it, and never used to mention it to any one. When I became a young man I one day mentioned it *privately* to my mother, who it appeared had already noticed it in me as a child. She then told me the incident about her own finger, and she and I being both utterly unscientific persons, assumed then and there that my squeamish feelings about injuries to fingertips must be connected with her little accident."

In reply to further questions, I learn that the injury to the mother, however painful at the time, was not so severe as to leave a permanent mark. Also, that no analogous peculiarity is known to exist among the near relations of Colonel M., of whom he specifies his father, brother, three sisters, nephews and nieces. He has no children.

This anecdote proves, so far as the evidence goes, that a very peculiar idiosyncrasy may spring suddenly into full existence, and need not develop gradually through small ancestral variations in the same direction. It is a more astonishing phenomenon than the equally sudden appearance of musical faculty in a single member of a non-musical family, being very special, and so uncommon and worse than useless that its ascription to reversion, in the common sense of the word, would be absurd. That is to say, it would be silly to suppose a sickly horror of wounded finger-nails or claws to have been so advantageous to ancient man or to his brute progenitors, as to have formerly become a racial characteristic through natural selection, and though it fell into disuse under changed conditions and apparently disappeared, it was not utterly lost, the present case showing a sudden reversion to ancestral traits. Such an argument would be no sense. But though this particular characteristic is of negative utility, its existence is a fresh evidence of the enormously wide range of possibilities in the further evolution of human faculty. — *Nature*, May 28th.

Poisoning by Potted Meat.

A very able and instructive report has just come from the pen of Dr. G. S. Buchanan, of the Local Government Board, wherein he treats of a series of cases of meat poisoning caused by the consumption of potted meat manufactured at Mansfield in February last. The cases heard of amounted in all to 265, and the total number of persons found to have eaten of the inculpatated meat were 279, there having been thus only 14 escapes in the whole number. The illness was usually characterised by gastro-enteric disturbance, profuse diarrhoea, vomiting, and colic. There was nervous disturbance, also, and excessive thirst was spoken of, but no cases of suppression of urine were heard of, nor were any pulmonary complications noted. Some mild attacks were of only two days' duration, but the majority of cases were ill for a week or longer, but no deaths occurred. Of 218 tabulated cases the incubation in 9 was from five to nine hours, in 64 from twelve to eighteen hours, in 108 from eighteen to twenty-four hours, and in 37 from twenty-four to 36 hours. As to the cause of the outbreak, in not a few households all those who had eaten the meat were exclusively attacked, certain persons attacked in houses wherein the meat had not been used were found to have partaken of it elsewhere, and in each of several places around Mansfield where the meat had been purchased attacks occurred only among those who partook of it. In one instance the retailing of 4 lbs. of meat from one shop caused illness in each of the 21 persons who had eaten it. In all, about 1 cwt. of the meat was made and disposed of. Dr. Buchanan enters at length into the distribution of the meat and into the processes of its manufacture, and arrives at the definite conclusion that the deleterious agent in the meat found entry after it had been cooked. No ill-effects could be traced to beef sold from the carcasses of the bullocks furnishing the beef in the meat, and the same holds good of the brawn and pork pies in which the carcasses of the pigs furnishing pork for the potted meat had their part, the gravy from the cooked beef and pork also entering harmlessly into the pies in question. In the meat a pigment called "Indian red" was used freely, but this contained no mineral poison, and had been used with impunity in earlier consignments of meat. Some of the utensils employed in the manufacture of the meat were uncleanly when seen by Dr. Buchanan. In those cases which had long incubation periods it might be held to be likely that a poisonous substance had been manufactured within the human body after the meat had been eaten, and that in the case of short incubation periods a poisonous product already within the meat in a manufactured state was the cause of the mischief. Or, again, those who ate the meat soon after its manufacture may have been consuming an already manufactured chemical poison which, being unstable, gradually disappeared from the meat; or, regarding some hypothetical microbe as the *vera causa* of the disease, this microbe may have been capable of rapidly developing its products in the alimentary canal on the first day of the sale of the meat, and have required longer time to so do later by having a diminished virulence or a decreased quantity. Dr. Buchanan holds it to be quite likely that the

microbe which may have been the cause of illness may at one and another time have been now fostered, now inhibited, as a result of the chemical changes effected in the meat by bacterial action. Dr. Klein examined samples of the meat, and he found a large number of microbes of different sorts existing therein, though no organism of a kind to be considered to possess specifically infective properties was detected among them. *Bacillus coli* and *bacillus proteus* were present in altogether unusual quantity, and either of these microbes might, under exceptional circumstances, manufacture decomposing albuminous substances into poisonous products within the human body in such a way as to cause symptoms of poisoning. But beyond the establishment of the fact that the meat caused the mischief, the matter remains indefinite, though many possible channels of disease causation are discussed.—*The British Medical Journal*, July 25, 1896.

Report of a Medical Commission on Alcohol.

At the annual meeting of the Maryland Homœopathic Medical Society, held in May, 1895, a commission was appointed to investigate the effects of alcohol in health and disease. During the recent session of the Society, held in Baltimore May 19th and 20th, 1896, the following report was made, signed by the full commission and adopted unanimously by the Society:—

This commission has carefully considered the important matter thus placed under its care, it has gone to original sources where practicable, and weighed the matter in the light of experiment and experience. The members of your commission unite in the following conclusion:

The most perfect health is compatible with total abstinence from all alcoholic beverages.

A very large proportion of disease is induced by their use.

Of all diluents or solvents for the nutritious parts of food there is nothing that can take the place of water.

While exhibiting a slight irritant or stimulant effect, the secondary or permanent effect of alcohol is narcotic and depressing. Its use as a medicine in chronic or long continued sickness, such as consumption or typhoid fever, is hurtful and tends to prevent recovery.

Those who take wine, beer, or any other form of alcoholic liquor daily, should understand that it is at a cost. It is a luxury which must be paid for, usually by loss of health, of mental power, of calmness of temper, of judgement, the control over thoughts, words and actions being impaired. Its habitual use exposes the body to disease, leads to premature degeneration and shortens life.

Alcohol creates a craving for itself which in a certain number of persons becomes irresistible. Those who use alcoholic liquors are more liable to become diseased, harder to cure when ill, and are more liable to complications than total abstainers.

Those accustomed to the use of such beverages may, with perfect safety, discontinue their use.

No form of alcoholic liquor is a tonic, but the exact opposite.

While alcohol has been classified by some scientists as a food, its use as such is dangerous and should be condemned.

The use of porter, beer, stout, or any other form of liquor by nursing mothers is productive of lamentable results to both mother and child. Alcohol does not increase the supply of milk, while, on the other hand, when thus used, it has led to the formation of drinking habits in the mother. It tends also to produce weakness, nervousness, epilepsy and other diseases in the offspring.

The use of liquor by one or both parents entails disease upon offspring. They are often cursed by an overpowering desire for drink, are apt to be irritable, hysterical, with a tendency to the neuroses generally, including insanity. Many die young.

The greatest feats of skill, strength and endurance are performed more easily by total abstainers.

Finally, from a therapeutic standpoint, alcohol can be regarded only as a temporary stimulant; and because of its secondary or depressing effect the employment of other means of stimulation is strongly advised.

Owing to the dangerous character of alcoholic liquors it is recommended that no one should use them except under the direction of a physician; and physicians are advised to prescribe alcoholic liquors with great caution and then to employ their official titles.

Respectfully submitted,

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ELDERIDGE C. PRICE, M.D.,

HENRY CHANDLEE, M.D.,

JOSEPH S. GARRISON, M.D.,

—*Southern Journal of Homœopathy*, July, 1896.

CLINICAL RECORD.

CASES BY DR. MAHENDRA LAL SIRCAR, M.D.

1. *A Case of Dysentery*: Indubhusan, a male Hindu child, aged 13 months, was suffering for 2 months from dysentery after an attack of what was supposed to be measles. The stools were 7 to 8 in 24 hours, slimy, yellowish green, and bloody, passed with much urging and noisy flatus. I gave him (July 2, when I first visited him) *Argentum Nitricum* 6x, 1 gle twice a day. On the 4th report was brought to me that the number of stools were less, being 4 to 5 in 24 hours, and the child's appetite seems to have increased, as he takes his milk with greater eagerness. The medicine was repeated.

I visited him again on the 10th at 11 A.M. I found him sleeping. I could feel the liver which was slightly enlarged. The stools were still of the same character, and 5 in number during day and night. I omitted *Arg. n.* and gave some globules of *nihilum*.

12th. Report was brought to me to the effect that the number of stools has increased, being now 6 instead of 5 in 24 hours. They were more in day than in the night, frothy, and more diarrhoeaic than dysenteric, and still passed with flatus. *Ipec.* 6x, gles.

14th. No better. Stools of the same character. *Acalypha* 3 x, gles. On the 20th report was that he was much better. Gave some *nihilum* globules. I heard no more of him, from which I conclude he must have recovered, otherwise the father, who had great faith in me, would certainly have come to me.

2. *A Case of Diarrhœa*: Bata Vihari Mukerjee, aged 30, came to me on the 12th inst. (Aug.) for diarrhœa from which he was suffering for 5 days. The stools were passed only in the morning, profuse, hot, passed with loud flatulence. *Acalypha* 3x, 1 drop twice a day, cured him thoroughly in 4 days.

3. *A Case of peculiar sequela of Influenza*: Jotindra Mohan Chatterjea, a resident of Bhowanipûr (a suburb of Calcutta), aged 18, came to me on the morning of the 23rd Inst. (Aug.) for a troublesome complaint from which he was suffering for three years after an attack of Influenza. The complaint was a constant sensation of a lump in the throat with as constant a tendency to hawk and clear the throat. The result of the hawking was the expectoration of clots of blakish mucus. *Acalypha.* 3x, 1 drop twice a day, cured him in a few days.

Remarks.

These cases well illustrate the remedial virtues of *Acalypha Indica* which we could only avail ourselves of in the light of its recent provings. It has certainly other pathogenetic and consequently curative powers, especially over the female reproductive organs, as seen in the cases in which it was empirically used by Dr. Marc Jousset. But these require to be developed by further provings especially in the female subject. Are there none to follow the examples of Babus Gopal Chunder Dutt and Joykissen Ghosal?

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

136. KALI NITRICUM.

Constipation :

1. St. later than usual. Indolent sts.
2. St. hard, with great pressure.
3. Hard st., in evening, with swelling of hæmorrhoids ; preceded by sticking in both groins, afterwards also in anus ; with great pressure and sticking in pudenda.
4. Frequent urging in rectum, followed by hard st., in evening.
5. Hard st., like sheep-dung ; followed by burning in anus.
6. St. unusually hard, followed by discharge of blood from anus.
7. Frequent sensation as though thin st. would occur, but next morning st. was very hard.
8. Hard difficult st., with such exertion that rectum protrudes.
9. Desire for and sudden evacuation of thin st., after which dragging and desire do not seem to disappear but continue till at last some scanty hard feces pass.
10. Unsatisfactory though not hard st., preceded by much urging and evacuations accomplished with great pressure, followed by disappearance of feeling of fulness in abdomen.
11. Increased micturition even at night, with hard st.

Diarrhœa :

1. D., alternating first days frequently with other (natural) sts.
2. Very urgent desire for st., and D., in morning.
3. D. with violent pains in abdomen.
4. D. preceded by cutting in abdomen.
5. D. and griping about umbilicus, seldom remitting.
6. D. four or five times in a day, followed by smarting in anus ; after some thin st. is passed once, it seems as though orifice of anus became stopped, which caused a disagreeable sensation ; after prolonged and great urging very little passed, feeling like hardened feces, with relief of tenesmus.
7. D., with emission of much flatus.
8. D., of bright yellow color, after normal st.
9. Violent purging. Watery evacuations.
10. Soft sts. preceded by rumbling and noises in intestines.
11. D. without colic. 12. D. followed by constipation.
13. Thin sts. Profuse thin evacuations. St. scanty and thin.
14. Pasty st., associated with cutting in whole intestinal tract.
15. Sts. followed by tenesmus.
16. Soft sts. with violent griping, extending up into chest where it became sticking.
17. Soft st. in evening, preceded by painful griping in abdomen.
18. Evacuation of small, thin, followed by consistent feces, with feeling as if something should be expelled ; afterwards, very soft st., preceded by urging ; all this alternated speedily, and evacuation ceased as if cut off.
19. Soft st., after dinner, followed by burning and sticking in anus, so that she was unable to sit.

20. St. soft or diarrhœa-like with rumbling and moving about.
21. Soft st. preceded by griping and cutting in abdomen.
22. Evacuation straw-yellow, in morning.
23. St., in evening with great pressure.
24. Normal st., though in thin pieces, with great pressure.
25. Headache on waking, fulness of abdomen, D. with chilliness.
26. Nausea, followed by difficult vomiting and D.
27. Nausea, frightful retching, vomiting and purging.
28. Qualmish nausea in stomach, and painful moving about in abdomen, followed by D. Violent, painful vomiting with D.
29. Pressive burning pain in epigastric region, gradually increased to dull boring: cutting pain along intestines, profuse emission of flatus and desire for st., with heart-burn and some heat over whole body, afterwards normal st.
30. Griping in umbilical region followed by flatulence and evacuation of thin clear st., after eating. Cutting in umbilical region, with feeling as though he was frequently obliged to go to st., remaining unaffected by usual st., but with frequent and profuse emission of urine.
31. Great distention of abdomen and emission of offensive flatus with ordinary st.
32. Urging of flatulence and feeling as though D. must ensue; with flatulence, evacuation of but a few drops of thin fluid.
33. Usual st. preceded by griping and pains in abdomen and small of back.
34. Griping colic with soft st.

Dysentery:

1. Dreadful diarrhœa, with awful griping and bloody sts.
2. Slimy evacuations.
3. St. covered with mucus. 4. Bloody sts.
5. Evacuation of bowels mixed with blood, with tenesmus.

Aggravation:

1. Morning. 2. Evening. 3. After eating veal. (Bell).

Amelioration:

1. Relief of tenesmus after passing hardened feces.

Before St.:

1. Cutting in abdomen. 2. Rumbling and noises in intestines.
3. Urging. 4. Griping and cutting in abdomen.
5. Sticking in both groins, afterwards in anus.
6. Nausea. 7. Movings about in abdomen.

During St.:

1. Griping in umbilicus; griping colic. 2. Emission of flatus.
3. Pain in abdomen. 4. Cutting in whole intestinal canal.
5. Rumbling and moving about. 6. Tenesmus.
7. Great pressure. 8. Sticking in pudenda (hard st.)
9. Chilliness. 10. Discharge of flatus; of blood.

After St.:

1. Smarting in anus. 2. Tenesmus.
3. Burning and sticking in anus. 4. Discharge of blood.
5. Disappearance of feeling of fulness in abdomen.

Rectum and Anus :

1. Hæmorrhoids in rectum became enlarged, with sticking pain.
2. Hæmorrhoids are more protruded though without pain, and soon again became smaller.
3. Discharge of blood from anus with hard st., but without pain.
4. Discharge of blood from anus as well as from vagina (after the miscarriage); on the second day diarrhœa as also lochia were less, but on the third both returned more violent than ever, and in the st. there were what seemed to be membranous portion of intestines mixed with blood.
5. Pressure and tenesmus in anus during a normal evacuation, with emission of flatulence.
6. Burning pressure in anus when not at st.
7. Itching in orifice of anus.
8. Frequent desire for st., and frequent pressing and dragging towards anus, associated with frequent emission of urine, repeated after different doses.
9. Great desire for st. not relieved by a normal evacuation, but lasting whole day, with frequent but scanty emission of urine.
10. Urgent desire for a normal st., twice in succession, preceded by sticking, griping in abdomen, and extending thereon backward to small of back, as from flatulence, in morning after waking.
11. Ineffectual desire for st.

General Symptoms :

1. Delirium. Depressed, thinks she must die. Ennui, lachrymose mood, sad expression. Anxiety with perspiration over whole body. Partly stupefied as in intoxication. Loss of consciousness.
2. Confusion of head, almost like intoxication.
3. Frequent attacks of vertigo, as if he would fall to right side and backwards. Headache in morning as after debauch.
4. Sneezing in morning without catarrh. Bleeding from nose, blood acrid like vinegar. Clotted blood or small balls of blood, come from nose on blowing. Swollen feeling in right nostril, painful on pressure.
5. Pale sickly expression. Face sunken; pale cold nose. Muscles of face convulsed. Twitching of muscles of lips, whereby mouth was distorted.
6. Scorbutic condition of gums. Tongue, coated white; red but clean. Offensive odor from mouth, which she does not notice herself. Coldness in mouth extending to stomach, immediately. Salivary glands, especially maxillary, were enlarged, hard, and painful; secretion of saliva increased with constant heaviness and pain over whole head and weakness of whole body. Disagreeable taste. Nauseous taste, persistent even after drinking water and cocoa. Sweetish nauseous taste. Sour taste in throat, in morning after rising. Loss of speech.

7. Hawking of mucus, with expectoration of a piece having form and consistence of liver, of sweetish taste. Burning in throat, relieved for only a short time by cold drinks. Frightful burning in throat, stomach and intestines. Pressive pain in throat like commencing inflammation. Sticking pain in left side of throat when swallowing and speaking, relieved by taking food.
8. Sore throat day and night, with inflammation of arch of palate and uvula. Sorethroat at night very violent, as if throat would grow together and as if she could not get air through it. Uvula and tonsils red, with painful swallowing of saliva, aversion to smoking, and general prostration. Soreness of œsophagus, she was unable to swallow irritating food or drink.
9. Incessant desire to eat and drink. A kind of sensation of hunger but no real appetite, followed by aversion to food with white coated tongue. No appetite, though she eats from habit without difficulty. Great thirst. Eructations and nausea. Qualmish nausea followed by eructations from stomach, retching and then uprisings of bitter water which afford relief. Vomited, immediately and constantly, so that she was unable to take least thing. Violent vomiting of blood and bloody mucous fluid. Ejecta from stomach were mixed with much dark blood. Ejecting grumous blood both fluid and clotted.
10. Inflammation of stomach. Faint-like weakness about pit of stomach. Irritable condition of stomach, intestines and urinary organs. Violent pain in epigastric region. Burning in stomach. Gripping and pressure in stomach.
11. Colic, gripping beneath left short ribs (descending colon), extending into epigastric region (transverse colon), worse when standing, and walking, relieved or removed by crouching together, pressure upon descending colon increased pains, and after crouching they were again felt. Gripping about umbilicus with emission of flatulenco, followed by relief in head. Inflammation of intestinal canal causing death. Abdomen distended. Rumbling in abdomen, without st. Excruciating pain in abdomen, cutting colic. Colic without evacuation. Violent pain in abd. after eating veal.
12. Burning in urethra while urinating, and greatly diminished urine. Frequent desire to urinate, with emission of much offensive flatus. Frequent desire to urinate with dull painful feeling in region of kidneys and increased thirst. Urging to urinate, at first few drops then usual stream, frequently. Frequent and profuse micturition, urine is as clear as water. Copious emission of urine, dark and red, depositing sediment after several hours. Strangury with discharge of bloody urine. Urine, brownish yellow; reddish; dark-colored and depositing a brick dust sediment. During micturition, painful stitches in region of prostatic gland.

13. Hoarseness. Sleep disturbed at night by cough, with expectoration, towards morning moderate perspiration: Cough frequently recurring, mostly followed by expectoration of hard masses of bronchial mucus, that sank in water, and was not dissolved by shaking; during cough pressive pain beneath sternum, afterwards feeling of soreness in same place. Bloody cough, till full moon. Expectoration of clotted blood after hawking mucus. Sour smelling expectoration from chest. Difficult respiration.
14. Weak, rapid pulse. Trembling of limbs. Paralysis of limbs, cramplike drawing pain, now in right, now in left arm, now in legs especially about knees, mostly during rest. Bruised feeling in limbs.
15. Fatal inflammation and gangrene of mucous membrane of stomach. Whole body, neck and legs swelled so rapidly that with difficulty was undressed. Trembling over whole body. Involuntary trembling of one half of body. Involuntary twitching. Chorea. Rheumatic stiffness of whole body, especially arms, neck and back, worse in cold weather, better in warmth.
16. Great weakness. Feels better while lying down. Feels less tired when walking than when sitting.
17. Smelling of camphor aggravates the symptoms. Instantaneous amelioration of the symptoms, especially of headache, by smelling sweet spirits of nitre.
18. Restless sleep. Sleepiness. Dreams of danger from fire, water and like things. Cold clammy sweat with shivering.

Remarks: KALI NITRICUM has symptoms which point to it as a likely remedy in constipation, diarrhœa, and dysentery.

The symptoms of constipation which call for it are: the stools are hard, and often like sheep-dung, passed with such exertion that the rectum protrudes, or if hæmorrhoids already exist they become swollen. The stools are preceded by sticking in both groins, afterwards in anus, and are accompanied with pressure and sticking in pudenda.

The diarrhœaic stools of KALI NITRICUM are of all shades of intensity from pasty to profuse watery. They are generally bright yellow in color. They are preceded by rumbling and noises in the intestines and accompanied by emission of much flatus. They may be painless but are generally accompanied by violent pain in the abdomen. Hahnemann found KALI NITRICUM useful in diarrhœa *without* pains in the abdomen.

Both Lilienthal and Bell speak of its use in *diarrhœa from eating veal*. Dr. Bell says: "Some persons always have diarrhœa after eating veal. The curability of such cases with KALI NITRICUM needs somewhat more confirmation, but no other remedy has had this symptom so well confirmed as yet." There is no justification of this from proving, except that one prover had violent pain in the abdomen after eating veal.

KALI NITRICUM, from the fact of its having produced gastro-enteritis to the extent of producing ulceration, must be useful in dysentery, in

simple cases when the stools are slimy or are covered with mucus, as well as in grave cases with ulceration, sloughing and gangrene. It will be useful in violent diarrhœa, associated with severe griping and bloody stools. Dr. T. F. Allen speaks of it as having been found useful in "dysentery, with most violent cutting pains as from knives, frequent stools, tenesmus making the patient cry out, evacuations very small, almost clear blood, great prostration."

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THE HAHNEMANNIAN ADVOCATE

(Successor to *Medical Advance*)

H. W. PIERSON, M.D., *Editor and General Manager.* Published by the Hahnemann Publishing Co., Chicago.

Subscription \$ 3.50 (Rs. 13) a year prepaid in Postal Union.

We have been authorised to receive subscriptions in India. "

Subscription to both the CALCUTTA JOURNAL OF MEDICINE and the HAHNEMANNIAN ADVOCATE, Rs. 22 a year.—*Editor, Cal. J. Med.*

Gleanings from Contemporary Literature.

URETHRITIS AND GONORRŒA.—A CLINICAL REPERTORY.

By BUKK G. CARLETON, M.D.

Genito-Urinary Surgeon and Specialist to the Metropolitan Hospital, Blackwell's Island, Department of Public Charities, N. Y. City; Professor of Genito-Urinary and Renal Diseases, Metropolitan Post-Graduate School of Medicine, New York City.

If, as we believe, typhoid fever and other diseases which are dependent upon gerin invasion as well as simple empheric catarrhal conditions can be ameliorated, or cured by the indicated remedy, why not urethritis or gonorrhœa. Believing that the remedies if properly selected will do as well in urethritis as in other inflammations of mucous membranes, the following repertory is presented to the profession. The greater portion has been verified by the author in his daily practice or competent observers.

This repertory will be found most useful by first finding the similitum of the peculiar sensation, then the local condition and finally confirmed by the word-picture of the urethritis or gonorrhœa of the selected remedy—or the choice may be made, from the word-picture from the diagnosis.

SENSATIONS.

Burning and dragging or stabbing pains along the urethra. *Arg. Nit.*

Burning and urging after urination, no relief of tenesmus by urinating. *Canth.*

Burning after urinating. *Alum.*

Burning at the neck of the bladder and in the urethra, discharge milky in appearance and corrosive in character. *Copac.*

Burning at the meatus and along the urethra, discharge slight, not having become purulent, or with epididymitis when suppressed. *Gels.*

Burning at the neck of the bladder when not urinating. *Acon.*

Burning between the urinary acts. *Merc Sol.*

Burning, biting, cutting pains in the urethra between the acts of urination, most marked at the meatus. *Cups.*

Burning, biting and stinging in the urethra when urinating. *Camph.*

Burning, cutting and scalding in the urethra during micturition with discharge of bloody mucus. *Canth.*

Burning during and after micturition. *Can. Sat.*

Burning in the urethra, with purulent discharge thick and bright yellow in color, with frequent urging to urinate. *Digit.*

Burning in the urethra with frequent desire to urinate. *Arg. Nit.*

Burning in the urethra and at meatus, with crawling, biting, piercing pains and gleety discharge. *Thuja.*

Burning pains near the meatus, which may be red and inflamed, urethral walls thickened. When phimosis occurs there is inflammatory induration of the parts. *Sulph.*

Burning, stabbing, dragging pains in the urethra which feels sore and swollen, with bloody or purulent discharge. *Arg. Nit.*

Burning, stinging, itching pains in the urethra, discharge greenish, thick, bloody; glans penis dark red and hot. *Merc.*

Burning, smarting and tingling in the urethra during urination. *Can. Sat.*

Burning when urinating, with stinging pains in the meatus and fossa navicularis. *Acon.*

CRAWLING, IRRITATING, ITCHING, TITILLATION.

Crawling and stinging in the meatus and glans penis, which are inflamed, red and swollen. *Acon.*

Constricted itchy feeling in the fore part of the urethra. *Arg. Nit.*

Irritability of the neck of the bladder. *Canth.*

Irritation of the neck of the bladder. *Dig.*

Irritation referred to the neck of the bladder, after urethral discharge has ceased, with frequent urging to stool and urination. *Nux Vom.*

Itching and tingling of the urethra. *Arg. Nit.*

Itching, biting and burning of the urethra before and after urinating.

Copav.

Itching in the middle of the urethra. *Sulph.*

Pain fixed in the fossa navicularis. *Tussilago. Pet.*

Pain in the spermatic cord, with urethritis and swelled testicle. *Puls.*

Pain shooting from the posterior part of the urethra to anus and testicles.

Arg. Nit.

Pains shooting across the hypogastrium from side to side in urethritis.

Puls.

Pains smarting and stinging in character on passing the urine. *Sandalwood.*

Sensation as if the urethra was knotted or closed towards the end of urination. *Arg. Nit.*

Sensation as though a drop of molten lead had passed along the urethra after urinating. *Arg. Nit.*

Sensitiveness near the meatus. *Arg. Nit.*

Stricture of the urethra, cutting pains in the testes and cord, enlargement of the testicles. *Arg. Nit.*

STRANGURY OR TENESMUS.

Strangury, not relieved by micturition. *Camph.*

Strangury, sudden irresistible desire to urinate with urethritis. *Petroselinum.*

Strangury, spasmodic pain at the neck of the bladder, tenesmus is almost unbearable with constant irresistible desire to urinate. *Canth.*

Strangury, urine passed in a feeble stream, accompanied by cutting pains.

Merc.

Tenesmus, constant urging as though the urine was tearing the tissues of the urethra. *Can Sat.*

Tenesmus, not relieved by urinating, with burning and urging. *Canth.*

Tenesmus, of the neck of the bladder. *Camph.*

Tenesmus, strangury and almost ineffectual urging to urinate. *Caps*

Tenesmus, the urine passed only in drops. *Bell.*

Tenesmus, with painful erections. *Merc.*

Tenesmus, with very violent burning and scalding pain during the act.

Merc Corr.

Titillation along the urethra, watery discharge, with itching of the prepuce. *Mez.*

Titillation, as though a drop of urine was passing along the urethra. *Thuja.*

URETHRAL DISCHARGES.

Discharge clear, sometimes of a yellowish material from the urethra with cutting pains in the canal after urination. *Nat. Mur.*

Discharge corrosive, accompanied by itching. *Kreos.*

Discharge green and purulent, worse at night. *Merc.*

Discharge greenish and copious with crawling pain at the meatus and fossa navicularis with burning on urinating. *Acon.*

Discharge moderate, not purulent; frequently used with good results in the early stage, with frequent urination, heat and a little pain in the urethra.

Gels.

Discharge of blood and purulent matter from the urethra. *Arg. Nit.*

Discharge of blood and watery slime from the urethra with swelling of the penis and testicle. *Mill.*

Discharge of a mucous character, small in amount—urinary flow irregular. *Clem.*

Discharge of a mucous fluid from the meatus. *Arg. Nit.*

Discharge of thick milky or greenish mucus from the urethra. *Puls.*

Discharge of watery mucus from the urethra. *Can. Sat.*

Discharge of watery mucus increased by exercise, with heat, swelling and titillation along the course of the urethra, itching of the prepuce; perineum sore and tender to the touch; gleet. *Mez.*

Discharge of yellow, purulent, creamy matter from the urethra with burning and smarting, glans penis red and swollen. *Can. Sat.*

Discharge only during the night leaving a yellowish stain on the linen. *Fluor. Ac.*

Discharge purulent, thick or thin and watery with slight burning and smarting during urination with bright redness of the lips of the meatus. *Sulph.*

Discharge purulent, whole canal feeling sore and swollen. *Arg. Nit.*

Discharge purulent, moderate or copious, white or yellow, of a thin watery or greenish yellow color, of an offensive odor with irritability of the bladder. *Can. Sat.*

Discharge purulent, yellow or suppressed with great tenesmus. *Canth.*

Discharge purulent, profuse, yellow or milky, corrosive in character with smarting and burning in the urethra, urination frequent, sometimes slow. *Copav.*

Discharge reddish or dark in color with cutting and constricting pain on urinating. *Cubeba,*

Discharge ropy and stringy. *Kali Bich.*

Discharge thick, bloody, greenish, worse at night or of muco-purulent matter mixed with urine. *Morc,*

Discharge thick, yellow, green, with sensitive, irritable urethra. *Kali Hydr.*

Discharge thick, yellow or muco-purulent; sub-acute attacks of urethral inflammation. *Sandal-wood.*

Discharge thin, and green, most marked between the acts of urination. *Thuja.*

Discharge yellow and bloody. *Canth.*

Discharge yellow, thick; glans covered with thick pus, prepuce infiltrated with serum. *Dig.*

Discharge yellow, gleet, slight in amount. *Agnus Cast.*

CHORDEE AND ERECTIONS.

Chordee. *Canth.*

Chordee and erections at night preventing sleep. *Thuja.*

Chordee, and erections preventing sleep but not interfering with urination. *Thuja.*

Chordee and erections preventing sleep and urination. *Canth.*

Chordee and erections painful and violent at night. *Copav.*

Chordee, frequent and painful erections at night. *Acon.*

Chordee, pain and swelling of the penis with slight fever. *Arg. Nit.*

Chordee, tenesmus, with yellow urethral discharge. *Can. Ind.*

Chordee, with violent erections at night. *Copav.*

PREPUCE.

Phimosis, inflammatory, with redness and swelling of the meatus. *Sandal-wood.*

Phimosis, inflammatory swelling of the prepuce with dark redness of the glands. *Can. Sat.*

Phimosis, inflammatory, prepuce hard and indurated, with urethral discharge. *Sulph.*

Phimosis, inflammatory, penis feels sore and sensitive, patient must walk with legs separated, swelling of the prostate. *Can Sat.*

Phimosis, inflammatory, penis swollen and inflamed, pulsating pains through the penis, urethra inflamed, discharging an acrid, milky fluid, with painful urination or profuse yellow and purulent, with meatus tumid, gaping and inflamed. *Copav.*

Phimosis, inflammatory, prepuce puffed up and infiltrated with serum. *Dig.*

Phimosis, prepuce infiltrated with serum, thick and bright yellow discharge from the urethra. *Dig.*

Phimosis, prepuce œdematous, of a dark purplish color, possibly paraphimosis. *Merc.*

Phimosis, penis swollen, with sticking pains through the urethra. *Can. Sat.*

GLANS PENIS.

Glans penis dark red and hot, with burning, sticking and itching pains in the urethra. Lips of the meatus red, inflamed, swollen and burning. *Merc.*

Glans penis, excoriating, inflamed, with tickling and itching. *Copav.*

Glans penis inflamed and covered with a thick, copious secretion of pus. *Dig.*

Glans penis, red and swollen. *Can. Sat.*

MEATUS.

Meatus inflamed and painful to touch, with burning, biting pains extending backwards from the meatus on urinating. *Can. Sat.*

Meatus inflamed, red and swollen, with crawling and stinging pains. *Acon.*

Meatus red and swollen, with inflammatory phimosis. *Sandal wood.*

Meatus red and inflamed, accompanied with urethral discharge mucopurulent in character, worse at night. *Merc.*

Meatus red, with smarting and burning at the meatus and along the urethra. *Upls.*

Meatus red and inflamed, accompanied with burning pain, and induration of the prepuce. *Sulph.*

Meatus tumid, gaping and inflamed, with profuse yellow purulent discharge. *Copav.*

URINE.

Urine bloody. *Can. Sat.*

Urine bloody, with frequent urination. *Copav.*

Urine hot, burning, with fever. *Acon.*

Urine has the odor of violets. *Cubeba.*

Urine has the odor of violets. *Copav.*

Urine offensive, with burning and smarting on urinating. *Erig.*

Urine is passed in a thin and divided stream. *Sulph.*

Urine passed drop by drop, with burning and smarting in the urethra and at neck of the bladder; constant ineffectual desire to urinate. *Copav.*

Urine scalding, passed drop by drop, with cutting pains before, during and after urination. *Canth.*

Urine spreads when voided. *Can. Sat.*

Urine scalding and burning, with frequent urging. *Can. Sat.*

Urine scanty, passed with great difficulty, great agony at the thought of urinating. *Acon.*

MICTURITION.

Urination, desire for, and pressure in the fore part of the urethra as if about to urinate, when not urinating. *Can. Sat.*

Urination, desire to urinate, with painful bearing down in the perinæum; prostatitis; stricture. *Sepia.*

Urination difficult. *Bell.*

Urination difficult, with constant urging and a sensation as if the urine was tearing the tissues of the urethra. *Can. Sat.*

Urination difficult, accompanied with discharge of pus, shreds epithelium, etc., from the mucous membrane. *Arg. Nit.*

Urinary flow irregular, has to wait some time before his efforts to urinate are successful, with intense pain along the urethra, specially referred to the glans penis; commencing stricture, mucous discharge from the urethra. *Clem.*

Urination frequent. *Alum.*

Urination frequent, with uneasy and disagreeable feeling in the back part of the urethra. *Agnus. Cust.*

Urination painful, with an acrid milky discharge of corrosive character from the urethra. *Copav.*

Urination, sensation as if a drop of lead had passed along the canal after urination, or as if the canal was knotted or closed. *Arg. Nit.*

Urination, inability to project a stream of urine, with a desire to pass a few drops immediately after urinating. *Arg. Nit.*

Urination, sudden irresistible desire to urinate, with strangury in urethritis. *Petroselinum.*

Urination, urging to urinate, with pain. *Kali Hyd.*

Urination, retention of urine with a full bladder. *Camph.*

ACUTE URETHRITIS AND GONORRHOEA.

ACONITE.—Urethritis, acute stages; crawling, sticking pains in the meatus and fossa navicularis with burning on urinating, also burning at the neck of the bladder when not urinating; copious green discharge and painful erections at night.

GELSEMIUM.—Urethritis, acute with dysuria from stricture. Commencing stage with burning along the urethra and at the meatus, which is red and smarting; marked soreness of the canal; and slight discharge not yet purulent.

CAMPHOR.—Urethritis, acute with chordee, stream thin as if the urethra was constricted. Tenesmus.

DIGITALIS.—Urethritis, acute with prepuce puffed up and infiltrated with serum. Purulent, thick, bright-yellow discharge with burning in the urethra, glans penis inflamed and covered with thick pus with frequent urging to urinate.

CANNABIS SATIVA.—Urethritis, advancing and stationary stages. Discharge moderate or copious, white, watery, greenish, yellow or creamy, offensive in odor with frequent urination and much burning and scalding. Glans penis red and swollen.

CUBEBÆ.—Urethritis, dark reddish discharge from the urethra; cutting and constriction after urinating; inflammation of the penis; irritability of the urethra. Urination followed by cutting and constrictive pains in the urethra.

HYOSCYAMUS.—Urethritis in young children.

CANTHARIDES.—Urethritis, intense irritation, discharge yellow and bloody chordee and marked sexual erections, with desire to urinate every two or three minutes, with cutting, burning pains almost unbearable, urine passed drop by drop.

KALI IODIDUM.—Urethra, irritable and sensitive; thick yellow-greenish discharge.

PULSATILLA.—Urethritis, discharge muco-purulent, thick yellow or greenish in character, with pain in the groins frequently going across the hypogastrium from side to side.

DORYPHORA.—Urethritis of children caused by local irritation or cause unknown.

CAPSICUM.—Urethritis, stitches in the urethra between the acts of urination, with fine stinging pains at the meatus.

COPAIVA.—Urethritis, swelling and inflammation of the urethra, violent

erections at night, chordee, pulsating pains through the urethra. Gonorrhœa, inflammation of the urinary organs, swelling and inflammation of the urethra with pulsating pains through the penis; meatus tumid, gaping and inflamed, discharge copious and yellow, urination frequent and bloody.

ARGENTUM NIT.—Urethritis, with burning, stabbing, dragging pains in the urethra which feels sore and swollen, discharge bloody and purulent; after urination a feeling as if a drop of molten lead had passed along the urethra immediately followed by a return of the desire to urinate.

TUSSILAGO PET.—Urethritis, with burning fixed pains in the fossa navicularis, profuse discharge, inflammation of the testes and eyes.

MERCURIUS.—Urethritis, with burning, stinging, itching pains in the urethra, discharge greenish, thick, worse at night; glans penis dark-red and hot with meatus red and inflamed.

CAPSICUM.—Urethritis, yellow, purulent discharge from the urethra; especially indicated in the fat and indolent with lax fibre.

SULPHUR.—Urethritis, discharge thick and purulent or thin and watery, with slight burning and smarting on urinating; bright redness of the lips of the meatus, with inflammatory phimosis. The prepuce hard and indurated.

CHRONIC URETHRITIS. GLEET.

CUBEBA.—Urethritis and gonorrhœa, declining stage, mucous discharge from the urethra, absence of violent symptoms.

SEPIA.—Urethritis, chronic, with frequent urination, burning, smarting in the neck of the bladder, urethra and at the meatus, with slight gleet discharge.

ERIGERON.—Urethritis, chronic, with irritability of the neck of the bladder, and drawing pains in the back running down to the right testicle.

FLUORIC ACID.—Urethritis, chronic, with discharge only during the night, leaving a yellowish stain on the linen.

AGNUS CAST.—Urethritis, chronic, slight yellowish discharge from the urethra.

SULPHUR.—Urethritis, chronic; stricture; when other remedies well selected seem to do no good.

NATRUM MUR.—Urethritis, chronic discharge clear, sometimes yellowish, with cutting pain in the urethra after urinating.

SELENIUM.—Urethritis, constant dribbling of a thin fluid from the urethra, with general relaxation of the system.

PULSATILLA.—Urethritis, complicated with swelled testicles, and sharp dragging pain in the spermatic cord.

ARGENTINE NIT.—Urethritis, chronic from gonorrhœa.

FLUORIC ACID.—Urethritis, chronic, gleet from stricture of the urethra.

THUJA.—Urethritis, discharge thin and greenish, a scalding pain while urinating followed by a sensation as if a drop of urine remained behind.

MEZEREUM.—Urethritis, discharge watery; swelling and titillation along the urethra, with itching of the prepuce; perineum sore and tender with heat.

ALUMINA.—Urethritis, chronic, drawing and tearing pains in the morning.

AGNUS CASTUS.—Urethritis, posterior, with loss of sexual power and coldness of the parts.

NUX VOMICA.—Urethritis, posterior, chronic; when the discharge has ceased there is complaint of irritation far back in the urethra referred to the neck of the bladder, with urging to urinate and stool.

KALI BICH.—Urethritis, ropy, stringy discharge from the urethra in old cases of gleet.

THUJA.—Urethritis, recurrent gonorrhœa.

ICHTHYOL.—Urethritis has frequently been cured with this remedy.

SANDAL-WOOD.—Urethritis, sub-acute, receding stage, thick, muco-

purulent discharge, with stinging and smarting pains on passing the urine.
MILLEFOLIUM.—Urethritis, slimy, watery discharge with swelling of the penis and testicle.

KREOSOTUM.—Urethritis, with corrosive acrid discharge and itching of the urethra.

PETROSELINUM.—Urethritis, with sudden irresistible urging to urinate with strangury.

KREOSOTUM.—Urethritis, with corrosive, acrid discharge and itching in the urethra.

GNORRHŒA IN THE FEMALE.

Word-picture from Carleton's *Genito-Urinary and Venereal Diseases*.

ACONITE.—Heat, swelling and redness of external genital organs with frequent desire to urinate.

ALUMINA.—Itching in pudendum. Burning in genitals, which are inflamed and corroded; patient is unable to walk. Amelioration from washing in cold water. Discharge profuse, resembling the washing of meat. Lassitude and feeling as though the organs were prolapsed.

ARGENTUM NITRICUM.—Profuse, purulent and bloody discharge. Great soreness of the parts which may ulcerate and bleed. Pruritus vulvæ.

AURUM.—Profuse, light-yellow discharge from the genitals. Burning and intolerable itching of the pudenda. Acrid leucorrhœa which excoriates the genitals. Induration of the inguinal glands.

BELLADONNA.—Vagina dry and hot. Congestion and inflammation of the labiæ. Discharge of white mucus from the vagina, with violent stitches in the pubic region and inner parts; great pressure as if the pelvic viscera would protrude through the vulva.

CALCAREA CARB.—Lymphatic temperament. Milky discharge from the genitals with burning, biting and voluptuous itching of the parts, attended with pressure in vagina, which may be swollen, red and inflamed.

CANNABIS SATIVA.—Cutting pain in the labiæ during urination. Urethra plugged with pus. Swelling of the vagina, with itching, burning and a thick white discharge.

CHAMOMILLA.—Yellow, acrid, watery discharge, which smarts, burns and excoriates the parts.

COPAIVA.—Itching of the vulva. Red spots on the vulva, with burning, milky leucorrhœa.

KREOSOTUM.—Gonorrhœa. Has been used in the male, but is most frequently indicated in the female. Great urging to urinate. Discharge bloody and very offensive, sanious, yellow, yellowish-white, foul, acrid, excoriating the labiæ, with itching and smarting. Corrosive itching within the vulva and on the labiæ. Burning, itching and swelling of the labiæ.

MERCURIUS.—Inflammation of the vulva, which is swollen, red, and hot. Pressing down pain. Discharge of mucus tinged with blood. Copious discharge of watery mucus. Yellow leucorrhœa, with offensive odor.

PULSATILLA.—Discharge of thick, milky mucus. Burning, stinging, and swelling of the labiæ.

SEPIA.—Redness and itching of the labiæ and vagina, with discharge of yellow, greenish watery pus or foul smelling fluid.

SULPHUR.—Itching of the clitoris, and burning of external parts, attended with a thin, burning discharge, especially in the morning.

—*North American Journal of Homœopathy*, July 1896.

THE HEREDITARY TRANSMISSION OF MICRO-ORGANISMS.

It is well known that in the construction of many of the theories of heredity the doctrine of the transmission of acquired characters has obtained considerable prominence. The hypothesis of Lamarck rendered it necessary to assume that structural characters which had arisen from the use or disuse of organs, became an integral part of the individual and reappeared in the descendants, and although the application of this idea became greatly restricted when the principle of natural selection was established, it is only within the last few years that the transmission of acquired characters has been considered as unproved, and the instances put forward in support of this view to be capable of a different explanation. It may be admitted that mutilations and permanent injuries can be included among acquired characters, and the structural and functional modifications of the individual which occur in disease may persist, and, therefore, also be considered as definite morphological or physiological changes. Mutilations apparently do not pass from parent to offspring, and this has been especially pointed out by Weismann and his followers, since if heredity is capable of explanation on the hypothesis of the continuity of germ plasma contained in definite reproductive cells, any change in the structure or modes of activity of the essential body or somatic cells would not be transmitted. An identical line of argument also negatives the belief that diseases can be inherited, and this view was maintained by Weismann in his well-known criticism on the transmission of experimental epilepsy; the symptoms in this hereditary disease he considered might be due to some unknown microbe which found its nutritive medium in the nervous tissues and was transmitted in the reproductive cells. The question whether micro-organisms can actually pass from parent to offspring is one which has been carefully investigated, whereas the proof that actual morphological changes, such as modifications of histological or molecular structure, can be transmitted has not yet been given. It is conceivable that predispositions may be inherited, and these must result from alterations in the germ plasma, or a direct infection of the germ or embryo might cause the transference of a disease from one generation to another, a phenomenon which simply depends upon a particular mode of conveyance of a parasite.

In many diseases, and particularly those which are directly caused by micro-organisms, it is a matter of interest to note the wide differences which exist between the conveyance of hereditary characters and of a specific disease. Armauer Hansen has made this perfectly clear in considering the etiology of leprosy. He has pointed out that true hereditary characters are usually limited to one sex, frequently appear at a particular age, and the phenomenon of atavism is not rare; but in the conveyance of such a disease as tuberculosis or leprosy none of these conditions are fulfilled. It is a logical deduction from the consideration of these differences that every specific disease which is transmitted cannot be regarded as hereditary, but as an instance of the direct bacterial infection of the germ cells or embryo. Most writers on cancer and malignant growths have discussed the hereditary transmission of this disease, and if it is allowed that a disposition to cancer may be derived by inheritance, then this condition would depend upon some peculiarity inherent in the nucleus of the germ cells; but if, on the other hand, malignant disease is caused by a parasite belonging, as some investigators have sought to prove, to the group of protozoa or protophyta then the transmission of the actual disease will depend upon the passage of a micro-organism which invades the germ or its product, and the whole phenomenon ceases to be one of heredity, for the hereditary transmission of micro-organisms is simply a particular instance of bacterial infection. The inheritance of actual specific disease must, therefore, always be consi-

dered as a problem absolutely distinct from that of heredity and incapable of explanation by any hypothesis of heredity.

Micro-organisms which reach an individual either by inheritance or other modes of conveyance may undoubtedly exhibit a period of latent life extending over many years; but when this condition is succeeded by an active life, to establish the proof of an hereditary transmission is exceedingly difficult or even impossible. The early researches into problems of this nature were necessarily made with the help of statistical and clinical methods, but it is the application of experimental methods, which could only be pursued with success as the study of bacteriology developed, that has finally succeeded in removing the subject of the hereditary transmission of specific diseases from the hazy region of speculation. The attitude assumed by Baumgarten and his followers on this question is well known. In the case of tuberculosis it is maintained that individuals are rarely infected with tubercle bacilli after birth, but that the disease in the majority of cases is due to a parasitic infection of the egg cell or embryo. It is even urged that the bacilli may remain latent in one individual, and only enter upon a phase of activity in the offspring, a view which, if correct, would accord with the opinion of many clinical observers. While destroying the opinion so commonly held that an "inherited tubercular predisposition" exists, Baumgarten's theory of hereditary parasitism makes a still greater demand on the imagination; but that the views of this distinguished pathologist have acted as a stimulus to renewed experimental work on the transmission of micro-organisms is beyond doubt. Recent papers by O. Lubarsch, of Rostock, and J. Csokor, of Vienna, give an admirable exposition of the present position of our knowledge on this subject of the transference of bacteria from parent to offspring in man and the lower animals, and the evidence that bacteria may in this manner gain access to the organism is incontestable.

In inherited specific diseases it is possible to distinguish two forms of infection: first, by a direct bacterial invasion of the essential reproductive cells; secondly, the egg cell or the embryo may receive micro-organisms from the female, in which case the blood stream is the channel for conveyance, and the whole phenomenon is then one of metastasis comparable in every respect to what obtains when bacteria multiply at a definite area of the body, and thence become distributed by the blood and lymph in distant parts of the organism. Bacterial infection may, therefore, be either germi-native or placental, and in mammals the latter form of transmission is not infrequently observed. The specific bacteria of anthrax, typhoid fever, pneumonia, and tuberculosis have been isolated from the human fetus, cultivated, and successfully inoculated upon animals, so that the chain of evidence is complete. The pyogenic cocci such as streptococcus pyogenes and staphylococcus pyogenes aureus have also been demonstrated in fetal tissues by Fraenkel and Kiderlen, and Anche has shown that in smallpox the placenta may be penetrated by these micro-organisms. In the lower animals not only may the bacteria already mentioned be transmitted, but also those of cholera, glanders and chicken cholera.

In many animals the egg cell is the largest unit of the organism and would be capable of containing numberless bacteria; that such an infection does occur was first established by the classical observations of Pasteur, which have been confirmed by all subsequent investigators. In pebrine, a disease of silkworms, definite sporocyst forms (microsporidia or Cornalia's corpuscles) are transmitted from the imago in the egg cell, and the larva is directly infected in this manner. Blochmann has also described a similar mode of conveyance of bacteria in the ova of *Blatta orientalis*. In a single instance a tubercle bacillus has been seen in the mammalian ovum. The sperm mother cells may also be invaded by micro-organisms, but this is rare, and no example of an infected male reproductive cell exists. That this condition will ever be demonstrated is improbable, since bacteria contrast with

parasitic protozoa in infecting the cell and sparing the cell nucleus, and the essential agent in the process of fertilization is the nucleus or head of the sperm cell.

Various observers have attempted a solution of this question of germinative infection by the employment of two different methods. The first of these is that pursued by Maffucci, who directly infected the fertilized eggs of the fowl, and in the second not only were the genital glands and the products of these examined for micro-organisms, but pieces of them were taken from animals suffering with specific diseases and used as material for inoculation.

Even if it is assumed that an ovum¹ actually is a site in which bacilli such as those of tuberculosis exist, it may be objected either that the microbe is dead or that such a cell is incapable of development. This is the attitude taken by Virchow, who absolutely denies the existence of congenital tuberculosis. Maffucci's experiments, however, contradict this opinion, for this observer has shown that the bacilli of avian tuberculosis develop in an infected embryo, and the chicken succumbs to tuberculosis in twenty days to four and a half months after hatching. If, however, instead of infecting the embryo, bacteria such as those of chicken cholera, or anthrax, or Friedlander's pneumococcus are introduced in the extra embryonic area, then these organisms may actually enter the embryo through the allantois, but do not increase in number, provided the embryo remains alive. The pathogenic micro-organisms may, therefore, be destroyed or attenuated by actively proliferating embryonic tissue cells, or they may become capable of development at a later period of life, in other words, remain latent. Although these experiments were devised to establish the view that a genuine germinative infection may occur, they obviously do nothing of the kind, and it is to the researches of Gartner that we owe an absolute demonstration that ova may contain pathogenic germs. Gartner, among other animals, inoculated canaries with mammalian tubercle bacilli. After a few weeks he removed nine eggs, washed these in dilute corrosive sublimate, dried them in wool and introduced the contents of each egg into the peritoneal cavity of guinea pigs. In two cases tuberculosis was set up, the animals dying one and a half months and two and a half months after infection. These experiments, which are absolutely free from objection, conclusively prove that the egg cell may contain virulent bacteria, and it is easily conceivable that such eggs may develop and the transmission of the parasite take place by direct germinative infection, especially since Maffucci's work shows that such infected eggs are capable of development.

Jani, Westermeyer, Spano, Walther, Gartner and quite recently Jakh, have microscopically investigated the bacterial contents of the reproductive glands, and also inoculated animals with fragments of these organs. With the exception of Gartner's researches, these experiments have not added greatly to our knowledge of the hereditary transmission of bacteria. All the experiments of Westermeyer were negative. In fourteen cases of well-marked general tuberculosis no tubercle bacilli could be recognized, and inoculation experiments were failures. The experiments of Jakh were more fortunate. Five inoculations with pieces of the male reproductive gland and its product, taken from individuals dead of tuberculosis, gave three positive results. If the gland alone was used, the experiments were always negative, and of three inoculations with pieces of the egg-forming gland one was successful. It may be admitted that these experiments do not really throw much light on the subject of germinative infection, but Gartner's researches are of much greater value. He experimented upon mice, guinea pigs, rabbits and canaries, these birds being susceptible to mammalian tubercle bacilli. Having inoculated these animals with bacillus tuberculosis, a careful examination was made of the offspring of such tubercular parents. This method might naturally be expected to give a conclu-

give answer to the question of hereditary infection, and the following information has been gained from these researches: 1. The sperm rarely contains tubercle bacilli—five in thirty-two cases. Even if micro-organisms exist, they are incapable of infecting the egg. In twenty-two (rabbits) and twenty-one cases (guinea pigs) where the male reproductive gland was the seat of an acute tubercular process, the offspring were never infected. 2. Neither does the male infect the female by way of the sperm. 3. Infection takes place frequently from the female to the foetus, and in an overwhelming majority of cases by way of the placenta.

A few considerations may make the importance of Gartner's work more evident. If bacilli exist, as they occasionally do, in the product of the male gland, it is probable that this material, like other parts of the body, contains bacteria only a few days before death, for we know that quite an abnormal number of micro-organisms may invade the whole organism during the last days of life. Tubercle bacilli are immotile, and therefore will not easily reach the oviduct or egg, a matter of some importance, since it has been shown that in most cases the ovum is fertilized either high up in the oviduct or even at the time of liberation from the Graafian follicle. Stroganoff has also pointed out that the uterine area is sterile, and the secretion of this is bactericidal, in which it resembles sputum or the mucus of the nasal tract, which is almost free from germs. Lastly, it is well known that a single male morphological unit is sufficient for fertilization, and if we assume with Gartner that 100 virulent tubercle bacilli are mixed with sperm cells, the ratio of bacteria to these would be about 1 : 22,500,000 : it is hardly conceivable on the doctrine of probabilities that a bacillus would gain access to the egg. It may, therefore, be considered, both on experimental and theoretical grounds, that a germinative infection of the ovum never occurs by the conveyance of micro-organisms in the male reproductive cells.

The difficulties which exist in proving that the inheritance of a specific disease may occur through an infection of the ovum are fortunately not so great in those cases where the passage of micro-organisms takes place solely from the female to the foetus by way of the placenta. It is established that specific micro-organisms can pass by this route. It is not even necessary to assume that there is any lesion whatever in the placenta, or that the epithelium of the fetal villi is destroyed. An experiment by Zuntz shows clearly that particulate material will easily pass into the amniotic fluid from the maternal portion of the placenta, for if indigo carmine is injected into the veins of the female the dye passes into the amnion, leaving the foetus free, and in this very manner anthrax bacilli may pass, and from the amnion gain access to the mouth of the foetus, enter the gut and set up disease by a primary infection of the wall of the intestine. An intra-uterine infection, therefore, can occur without lesion of the placenta, though in the majority of cases this structure is primarily infected, and then the foetus or else hemorrhages of the placenta permit the passage of micro-organisms. However, the undoubted fact that micro-organisms can penetrate the healthy skin by way of the hair follicles—and the same is possibly true for the epithelium of the urinary tract—must not be forgotten in considering the passage of bacteria across the placenta. This structure may be normal and even then allow the transit of bacteria. Birch-Hirschfeld from researches on the structure of the human placenta as well as that of mice, rabbits and goats, considers that the bacilli of anthrax at any rate can traverse the uninjured chorionic epithelium. Moreover, in the human placenta and in rabbits numerous processes of the chorion traverse the placental sinuses, and these processes are normally destitute of epithelium. It was noticed by Max Wolff that anthrax bacilli easily pass if the placenta was crushed or torn, and micro-organisms which exert a necrotic influence on tissues, such as the pyogenic cocci, appear first to destroy the epithelium of the chorionic

villi, and then pass through into the foetal blood. In this fluid micro-organisms reach the liver, and it is this organ which, as a rule, is primarily affected, and then the glands in the lymphatics leading from the organ become implicated. The location, therefore, of tubercles in foetal tuberculosis is characteristic, and all observers insist upon this feature in determining whether tubercular deposits are of intra or extra uterine origin in early cases of the disease. As a matter of interest it may be mentioned that quite recently Bar and Renou have demonstrated tubercle bacilli in the blood of the umbilical vein. The method, used by these observers, that of inoculating guinea pigs with the suspected blood, and in this manner establishing tuberculosis, is not so convincing as the actual demonstration of bacteria in foetal tissues. Wassermann in a recent paper especially insists on this point, and discards all evidence of inherited disease which rests simply upon inoculation experiments. He describes a case of early tuberculosis which ended fatally when the child was ten weeks old, where the disease was acquired, not from the parents, who were healthy, but by direct infection from a tubercular relation, and believes that such cases as these are not infrequently cited as instances of congenital disease. In his opinion hereditary transmission of bacteria does occur, but it is exceedingly rare in comparison with the frequency of extra-uterine infection. Bernheim considers that the offspring rarely, if ever, become tubercular if separated from tubercular parents, with the exception of those cases where the placenta is infected. The case reported by Ivan Hoult of a child fifteen days old that on autopsy showed tubercular nodules in the liver, spleen, and lungs, and numerous bacilli, must be classed as a definite case of transmission which with many others lends no support to Eberth's statement that individuals do not inherit tuberculosis, but acquire it.

A recent case of congenital typhoid fever is related by Freund and Levy, and instances of transmitted hemorrhagic infection have been recorded by Neumann and by Dungern. The numerous examples which the journals of veterinary science contain, especially the work of Bang, Kockel and Lungwitz, also afford conclusive evidence of the transmission of pathogenic micro-organisms, though there is a consensus of opinion that the placental is far more frequent than the germinative infection. The share borne by the male in this transmission may be disregarded, as no bacteriological evidence exists to support this view. Finally, the frequency of hereditary transmission of pathogenic germs is exceedingly small compared to other modes of infection.—*From Science Progress.—Scientific American Supplement*, July 25, 1896.

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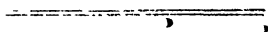
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THE
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VOL. XV.] Sept. & Oct. 1896. [NO. 9, 10.

ANTICHOLERA INOCULATION IN CALCUTTA.

In the appendix to the Administration Report of the Municipal Commissioners of Calcutta for 1895-96 there appears, in the form of a supplement to the Health Officer's report, a note by Dr. Simpson on the results of Anticholera Inoculation by M. Haffkine's method performed during the past two years. The results, on which the conclusions drawn by Dr. Simpson are based, are shown in the seventy-seven observations or observations made in seventy-seven places that are appended to his note. The observations are said to have been made in 75 houses in Calcutta, in 1 house at Shibpore and on board a steamer named the *Majestic*, among a total population of 1237 persons, of whom 413 were inoculated and 824 were uninoculated; and they show that 13 cases of cholera with 12 deaths occurred among the 413 inoculated persons, and 88 cholera cases with 77 deaths took place among the persons who had not been inoculated. From these results it is argued by Dr. Simpson that the inoculations possess the value of a safe and efficacious prophylactic against cholera and deserve to be adopted permanently as a reliable method for combating cholera like vaccination for combating small-pox.

Dr. Simpson has classified the inoculated cases into groups of three periods according as the time from the date of inoculation extends to four days, one year, and over one year; and he thus manipulates the figures furnished by the seventy-seven observations mentioned above:—

“The grouping of the data according to these 3 periods gives the following result:—

I. In the houses where cholera occurred during the first 4 days—a period in which the protective influence of the vaccine is gradually asserting itself, there were—

167 uninoculated individuals, who had 6 deaths (3.59 per cent.) and 3 attacks ending in recovery.

259 inoculated persons who had 5 deaths (1.93 per cent.) and 1 attack with recovery.

II. In the houses where cholera occurred during the second period extending over a year, there lived—

502 non-inoculated who had 42 deaths (8.37 per cent.) and 5 attacks ending in recovery, and—

269 inoculated who had one death (0.37 per cent.)

III. In the houses where cholera has occurred during the third period, i.e., more than a year after inoculation, there were—

238 uninoculated who had 23 deaths (9.66 per cent.) and 3 attacks with recovery, and—

96 inoculated who had 6 deaths (6.25 per cent.)

Thus a comparison of the proportion of deaths among the inoculated and non-inoculated in the 3 periods gives the following result. During the first period of 4 days, the number of deaths among the inoculated was 1.83 times smaller than among the non-inoculated. During the second period lasting over a year the number of deaths among the inoculated was 22.62 times smaller than among the non-inoculated; and during the third period, i.e., more than a year after the inoculation, the number of deaths among the inoculated was only 1.54 times smaller than the non-inoculated.”

He sums up thus:—

“167 uninoculated individuals had 71 deaths (10.86 per cent.)

402 inoculated in the same households had 12 deaths (2.99 per cent.)”

What must strike even the most superficial reader as remarkable in the above quotations is that the figures of his summing up do not agree with those given by Dr. Simpson in his groups. The total of the non-inoculated in the three groups comes up to 907, and of the inoculated to 624 which are quite different from 654 of the non-inoculated and 402 of the inoculated in the summary. This is not all. None of these figures coincide with those which one gathers from the detailed statements of the cases in the seventy-seven houses mentioned by Dr. Simpson, which give 824 non-inoculated and 413 inoculated cases! It is impossible to account for these discrepancies, except by the supposition that Dr. Simpson must have placed implicit reliance upon his clerks for these simple calculations, without doing them himself,—a procedure not always conducive to scientific accuracy especially when statistics are concerned. Such carelessness is the very reverse of commendable in one who attempts to draw most important conclusions from his statistics, conclusions which literally affect the most vital interests of the large town of which he is a responsible officer, and of the world at large.

As for the method of dealing with the figures we cannot help remarking that it is not fair to give only the proportion of deaths to the numbers of the non-inoculated and of the inoculated, without giving the proportion to the cases, which, as we shall see later on, is the very reverse of favorable to the inoculations. To give only the favorable, and omit the unfavorable, side of a problem, is certainly misleading.

Recently, grave doubt has been thrown upon the accuracy of the observations enumerated by Dr. Simpson, and Dr. Sanders, one of the past Health Officers of Calcutta, and a medical man of prominence here, has openly questioned their correctness. The matter is still subjudice of the Municipal Commissioners. The value or otherwise of the inoculations as a means of preventing or checking cholera necessarily depends entirely on the absolute correctness of the observations from which conclusions have to be drawn. So that the open impeachment of the accuracy of the observations of Dr. Simpson has surprised the medical and general public and compelled them to suspend their judgment. Nevertheless, now that Dr. Simpson's note and his list of observations are before the public, a few remarks upon their merit may

not be out of place and uninteresting to the public. Although the correctness of Dr. Simpson's observations has been questioned, it is difficult for us to believe that a scientific observer of his position and standing has laid himself open to the charge of wilfully deceiving the municipality, the Government and the public by placing before them statements the accuracy of which is not beyond question. But it is equally difficult to believe that Dr. Sanders could have been actuated by any but the most laudable motive of eliciting the truth, and that he should have allowed himself to be duped by designing persons. In the matter of statistics, especially in this country where the illiterate people as a general rule are actuated by a desire to please, and seldom by the love of truth, it is notorious how they, we mean the statistics thus collected, may be made to support any opinion or theory we like. Without meaning any disrespect to Dr. Sanders we will take for granted that all the observations shown in Simpson's list are absolutely correct.

Even if the correctness of the observations, however, be unquestionable, we do not think that they justify the conclusions which Dr. Simpson has drawn from them or that the anticholera inoculations are safe or undoubtedly act as a prophylactic against cholera. For in the first place, the method of these inoculations do not seem to us to have any reliable scientific basis, and the observations that have been recorded do not possess any of those qualities from which alone scientific opinion can be safely formed. If the principle of the method be that a previous attack of cholera prevents or renders mild and less fatal a subsequent attack, such a principle cannot be accepted, as it has no actual observations of unquestionable authenticity and sufficient in number to depend upon. If it be assumed that the symptoms of the illness following the inoculations agree with those attending a true attack of cholera, and, hence, that the principle of the method is to artificially produce in the system in a mild form the disease which it is desired to combat, such a supposition becomes untenable owing to the fact that in the majority of instances the symptoms of the illness following the inoculations are less like those of true cholera than like those of septic poisoning. Moreover, even if the inoculations be considered to produce veritable cholera symptoms, such cholera does not render the system proof

against the cholera virus, but rather renders it more prone to succumb under a natural attack of cholera, probably from a sort of cumulative action of the poison, as will be seen below.

Again, the observations that have been recorded by Dr. Simpson do not appear to us to possess all those qualities which render comparison fair and from which opinion of any scientific value can be justly formed. For, in order that a comparison between two cases may be of any utility for scientific purposes, those cases must be placed under absolutely or essentially the same conditions. But in an ordinary house in Calcutta like those enumerated by Dr. Simpson in connection with his observations, there usually live persons of different ages, different sexes, pursuing different sorts of occupation, possessing different habits, using in many cases different kinds of food and drink, and so on. There can be little doubt that such diversity characterised the individuals who dwelt in the houses referred to in his observations, as neither Dr. Simpson nor any body else could have placed or could place all those persons under precisely the same conditions as regards occupation, habits, food, drink, state of the system, &c. ; and yet those persons have been compared with one another and treated as if they were under absolutely the same conditions, and from such comparison conclusions have been drawn regarding the effect of inoculations, which can consequently have little scientific value.

Then again, the operations on the persons said to have been inoculated do not seem, from what we can make out from Dr. Simpson's list, to have been carried out in a complete manner. Some years ago, when M. Haffkine, the inventor of the method, delivered his first lecture on the subject in this town, his exposition of the subject led us to believe that two successive inoculations with two "vaccines" of different strengths at an interval of 4 or 5 days were required to complete the operation and to ensure the efficacy he claimed for the inoculations, and that inoculation with only the "first vaccine" did not afford protection from cholera. Yet Dr. Simpson's list of observations shows that only *one* out of the 413 persons inoculated was operated on with both vaccines, the rest being probably inoculated with *one* vaccine only. We may be mistaken in our surmise ; but if so, our mistake is due to Dr. Simpson's not showing in his list which of the 413

persons were inoculated with two vaccines and which with only one. If 412 out of the 413 persons were inoculated with the 1st vaccine alone, we must say that M. Haffkine's method of operation has not been properly carried out, and, hence, that no safe conclusion can be arrived at from those 412 cases.

Let us suppose, however, as Dr Simpson seems to do, that in all the 413 cases the requirements of the method had been completely fulfilled and that those cases will admit of some definite inference from them as to the efficacy or otherwise of that method to combat cholera. The list of observations shows us that out of the 413 persons inoculated, 13 were affected with cholera subsequent to their inoculation, and, out of these 13, 12 died; while of the 824 persons who dwelt in the houses or quarters of the 413 inoculated persons but who had remained uninoculated, 88 were affected with cholera and 77 out of these 88 died. So that of the cholera cases among inoculated persons 92·3 per cent died, while of those among uninoculated persons only 87·5 per cent ended fatally, thus showing that cholera proved much more fatal among inoculated than among uninoculated persons.

Dr. Simpson seems to take it for granted that as in 65 out of the 77 places mentioned in his list cholera did not occur among inoculated persons while it affected uninoculated persons, the seeming immunity of the inoculated must necessarily be the effect of inoculation, and that cholera selects the uninoculated in preference to the inoculated as objects for attack. But in doing so he apparently forgets, in the first place, that the mere appearance of cholera or otherwise among the inoculated or the uninoculated persons proves nothing, as that may be and in most instances is practically more or less a matter of accident connected in each individual case with the state of the system and the condition of the food or drink ingested; and, in the second place, that in his list of observations there are 9 houses in which cholera quite as distinctly appears to attack inoculated persons in preference to uninoculated persons,—thus showing that inoculation cannot prevent an attack of cholera. In these 9 houses there were both inoculated and uninoculated persons living, and when cholera appeared in them it affected inoculated persons only, while the uninoculated escaped. The total population of the houses amounted to 81 persons, of whom 24 were inoculated and 57 uninoculated.

There occurred 10 cases of cholera with 9 deaths among the 24 inoculated persons, while not a single one of the 57 uninoculated persons was affected with cholera. Of 2 out of the 9 houses there was in each only a single person inoculated (out of a population of 3 in one case and 5 in the other), and this very person was as it were specially singled out for an attack of cholera. In another of the same 9 houses, there were 2 persons inoculated out of a population of 8, and one of them was inoculated with both vaccines (thus completely fulfilling the requirements of M. Haffkine's method); and this very person, who had been subjected to the complete process of inoculation, was the only one affected with cholera in the house and died of it, while none of the 6 uninoculated persons was attacked.

The real practical efficacy, if any, of any method of inoculation as a prophylactic for a disease could be only accepted if that method exercised some modifying influence on the intensity of the disease or on the mortality consequent on it. The anticholera inoculations seem to possess neither of these qualities. On the contrary, the figures already quoted from Dr. Simpson's statistics prove beyond doubt that those inoculations instead of modifying attacks of cholera so as to reduce their intensity, render those attacks more fatal than if the affected persons had remained uninoculated. The same conclusion is found to result from the only 2 out of the 77 observations recorded by Dr. Simpson which possess some of those needful factors from which alone is any fair conclusion possible. These are his observations 53 and 60. In these cases there were two houses each containing both inoculated and uninoculated persons, and in each of which cholera appeared among both inoculated and uninoculated persons. The total population of the two houses amounted to 100 persons, of whom 67 were inoculated, while 33 were not inoculated. The 67 inoculated persons had 2 cases of cholera among them of which both *i.e.*, 100 per cent, proved fatal; while the 33 uninoculated persons had 4 cholera cases, of which only 3, *i.e.*, 75 per cent, died. So that even if any reliance could be placed on two observations only they would show that the anticholera inoculations instead of rendering attacks of cholera milder as vaccination does attacks of small-pox, are positively harmful, making inoculated persons more liable to succumb under attacks of cholera.

From the circumstances stated above, the anticholera inoculations according to M. Haffkine's method, as practised in Calcutta and as shown by the results given in Dr. Simpson's list, appear to us to be not only unproductive of any beneficial results as a means of checking or preventing cholera, but to be absolutely mischievous in their effects and dangerous to persons living in localities or houses in which cholera prevails if they happen to be inoculated.

The statistics submitted by Dr. Simpson point to two conclusions which are worthy of notice. First, that the inoculations are particularly dangerous during what he has called the first period. Some of the cases which ended fatally occurred within a few hours of the inoculation, and who can tell that they were not victims to the procedure? At least such must be the impression on the mind of their relatives, and we have heard these people complain that but for the inoculations the poor souls would not have contracted the disease and hence would not have died.

The second conclusion is what Dr. Simpson himself has drawn from his statistics. This is so palpable that there is no gainsaying it. It is this, that whatever prophylactic powers the inoculations may possess, they are lost within a year. Now this is a very damaging conclusion for the inoculations. For the logical outcome of this conclusion is that the inoculations to be permanently efficacious must be repeated every year! In other words, in order to guard against the remote contingency of an attack of cholera one must subject himself to the hypodermic injection of a pathogenic serum which, whatever its anticholeraic virtues, certainly does entail a good amount of suffering in the shape of septicæmic inflammation and fever, which may extend from four to eight days. And who can tell what the effect of repeated inoculations may be, especially in delicate constitutions? The reluctance of the people to submit to these inoculations will be further increased when it is remembered that the chances of taking the disease can be so easily reduced almost to zero, even in the midst of an epidemic, by the observance of some simple rules as regards diet and drink. This is what in effect we said, when reviewing the result of the inoculations, in September 1894, and we do not see any reason now, after a more extended experience of two years, to change our opinion.

HOMŒOPATHY AND HOMŒOPATHS.

(Communicated.)

It is a matter of deep regret that there is so large a proportion of incompetent men in the rank of homœopathic practitioners of Bengal, and the reason, why matters are so bad, is obvious. There is no College here for the study of the homœopathic system, and so barring the few graduates of the Calcutta Medical College, who have adopted the new system, those who practise it in the metropolis and the interior of Bengal are not properly instructed men, and do not possess any knowledge of Anatomy and Physiology which must be the basis of all knowledge of medicine. When the workers in the field are for the most part so ill qualified for their work, it is no wonder, that the success achieved should be disappointing and that discredit should be brought upon Homœopathy itself. A further cause of mischief has been the rather free bestowal of the honorary degree of M. D. on homœopathic practitioners, here by the Homœopathic Colleges abroad. The bestowal of the degree has not been confined to trained men, to "regulars," in the profession, but has been extended to "irregulars," and the consequence has been deplorable in the extreme. The degree does not bring with it any additional knowledge of either the theory or practice of medicine. Ill qualified professors of the healing art practise their art no better after they are dubbed with M. D. than before, and people take note of the fact that homœopaths holding the high degree of M. D. are as physicians nothing like what their titles indicate, and by a very simple process of reasoning infer that a system of medicine whose highest title really signifies so little cannot be of much value in itself. Homœopathy suffers thus in popular estimation. The great majority of homœopathic practitioners in this part of the world are decidedly unfit for their profession, and according to their varying degrees of unfitness, they may be divided into several grades, the lowest grade consisting of those whose equipments for their work consists of knowledge derived from one or two manuals on Homœopathy, not perhaps quite up to date either. When Homœopathy was confined to a select few, it had a name, and people appreciated it, and the appreciation was growing daily. Now Homœopathy has become mere child's play; people of all shades and descriptions consider it as an easy system of treatment and do not scruple in the least to practise it either for love or money. It is not, therefore, to be wondered at that Homœopathy is now at a discount, and its appreciation daily growing less.

There has, of late, been an apparent accession to the strength of homœopathic practitioners in consequence of the so-called graduates of the so-called Homœopathic Medical Schools having joined

their ranks. These "graduates" are without any adequate systematic medical training and by their signal failures, the necessary consequence of their ignorance, are only bringing disgrace and opprobrium upon the homœopathic system of treatment. A system of treatment, which is not indigenous, and which finds no countenance from Government, cannot possibly thrive if it fails to achieve successful cures. The new system of treatment in the hands of experts is expected to do wonders, as in fact it has done wonders. Instances can be cited by hundreds and thousands where Homœopathy had proved to be life-saving in desperate and given up cases. Of all the systems of treatment in vogue, Homœopathy stands on a high vantage ground in that it aims at *radicating* disease, whenever possible, and not merely at affording palliative relief. Herein lies its superiority over the "old modes." It gains its end by economising the vital powers. Its medicines act only on the diseased and not healthy organs, and unlike Allopathy and other systems of treatment, it does not indent upon the remaining strength of the patient, already perhaps greatly reduced by his sufferings, by measures which disturb the function of one organ for the relief of another, as the administration of purgatives in sick headache, and the application of blisters in inflammation of the lungs and congestion of the brain. Medical men are generally engaged in an unequal contest; the great enemy will always conquer at last; but the quest is a rational one, to find out means whereby the greatest amount of relief can be afforded to bodily suffering, and whereby the apparent approach of death can be most effectively warded off. "There is no absolute preservation from suffering, nor any deliverance from death." Practitioners, who have a sound knowledge of their profession, and who have acquired sufficient experience, can alone do justice to the cause and requirements of Homœopathy. They can form a correct diagnosis of disease, and are capable of selecting the right remedy at the right time. Mountebanks, on the other hand, are at sea when there is any complication, and prove themselves unequal to the combat. Having had no preliminary medical training, and being thus unequipped for their work, they do a world of mischief to the cause of suffering humanity. The new system of treatment is a most difficult system, as it does not prescribe a mere routine plan of treatment. Its abuse, therefore, is inevitable in the hands of quacks and inexperienced practitioners. It has been very rightly observed, that "expertness in Homœopathy can alone be acquired by extensive reading and observation, and he alone deserves the title of a qualified homœopath whose reading is large, who belongs to the republic of letters and science, and who has grown old with experience."

Physicians of eminence have felt and expressed in unequivocal language the efficacy of the homœopathic method of cure. It has been studied and adopted by several thousands of regularly educated and qualified practitioners, some of them Professors in Universities, and others leading men in their Profession.

There is another potent cause which has stayed the progress of Homœopathy in this country. This is want of unity amongst its regular practitioners. Every one thinks that he is his own master, and that it is beneath his dignity to learn from others. The juniors have no respect for their elders and superiors, there is no spirit of toleration, and there is lack of that discipline which should bind them together into a harmonious body. Perpetual strife, unceasing hostility, unpardonable backbiting, and petty jealousy among them are causing an irreparable injury to the great cause which they have embraced. There is yet time for the regular practitioners of Homœopathy to mend their ways, and to further the cause and restore the former prestige of Homœopathy in this country.

[The unity amongst the regular practitioners of homœopathy, the want of which is so much deplored in the above communicated article, can, in our humble opinion, only be brought about, as we said in our last number, "by the establishment of a society to exchange our ideas and opinions and discuss the various problems that may arise in connection with homœopathy and other branches of the healing art." If we see each other more we shall hate each other less.—*Editor*].

THE PLAGUE IN BOMBAY; PRECAUTIONARY MEASURES IN CALCUTTA.

WHATEVER doubts there might have been in the beginning as to the real character of the fever that is now raging in Bombay, they have given place to the positive belief that the disease is no other than the dreaded, bubonic plague which two years ago devastated Hong-Kong.

The exact date of occurrence of the first case or cases in Bombay is, and will remain, unknown. The first public notice of it was on the 23rd September, when Dr. Viegas drew attention to it at the Standing Committee of the Municipal Corporation of the city. He said that the disease has been prevailing on the Port Trust Estate and its vicinity in the Mandvi district during the last fortnight to such an extent that about one hundred men, chiefly young people, had fallen victims to it. There was a regular "reign of terror" in the locality, and that a great many people, in panic, had abandoned their houses. At the same meeting Mr. Ibrahim Rahmatulla said that he had already drawn the attention of the Health Officer to the plague prevailing in the locality about a fortnight ago, and that he had learned from reliable sources that about three hundred persons had died from the effects of the malady.

Thus it will be seen that cases of the fever which has caused such a fearful mortality must have begun to appear amongst the residents of the Mandvi district more than a fortnight before the 23rd September, that is, in the first week of that month.

The law of epidemic visitations is not uniform as regards the severity of the first cases, for while in some epidemics they are mild and are gradually followed by severe ones, in others they are of the gravest from the very outset. We have no means of knowing what might have been the fact as regards the present epidemic. If the severe cases reported on had been preceded by mild ones, then we must assume that the epidemic must have begun before September, at the latest in August. At any rate we are not far from the fact if we take its commencement at the last week of August.

When the first announcement of the prevailing fever being of the character of bubonic plague was made by Dr. Viegas and Mr. Rahmatulla, there was, as might have been expected, great divergence of opinion amongst the medical men of Bombay, as none of these gentlemen, with the exception of only one perhaps, Dr. Jelowitz, had any actual experience of the plague. Surgeon-Lieutenant-Colonel Waters, who had visited the affected district, could not believe that the disease was the true bubonic plague, simply because the mortality was not high enough.

The municipal health authorities were reported to have considered the statements regarding the disease as exaggerated and to have declared that the plague had not broken out. We have, however, the statement of Mr. Rahmatulla in the papers that when he described the symptoms of the disease to him, the Health Officer himself called it the plague, as "there was no disease known answering to the description." The municipal corporation cannot be blamed at all, as they have been acting with commendable zeal and energy, and at their meeting on the 30th September voted a lakh of rupees for suppressing the epidemic.

Dr. Nuserwanji Surveyor, of the Petit Laboratory, after careful investigations and microscopical examination of the blood and secretions of the patients suffering from the disease, gave his opinion fearlessly that it was, in all its clinical aspects and bacteriological results, typical plague, and that it was threatening to be alarming if not nipped in the bud. The testimony of Dr. Jelowitz was in the same direction, and ought to have been conclusive, as he was in Bagdad in 1876 and 1877 when plague was raging there, and had treated a large number, indeed, hundreds of cases.

The difference among doctors ceased when the course and symptoms of the disease were more minutely and carefully studied. The course of the disease was very swift, the patients succumbing in from four to seven days, sometimes even on the very first or second day. The symptoms, as a general rule, were slight fever on the first day with pain in the groin and with or without simultaneous enlargement of the gland or glands in that region. On the second day the fever rises considerably, the temperature going up to 105 degrees. The enlarged inguinal glands become larger, other glands as of the armpit and of the neck become painful and enlarged. Delirium generally sets in on this day. These symptoms become aggravated on the third day, when labored breathing supervenes. The patient either dies on this day, or on the fourth, or at the latest on the seventh. The cause of death is failure of the heart's action. These are the prominent symptoms which are observed in plague patients in other parts of the world. By the end of September whatever difference of opinion based upon trivial grounds there was among doctors gave place to a consensus that Bombay had become a plague-stricken city.

No statistics of the cases and of the percentage of deaths was kept in the month of September, and therefore this must remain unknown. If, as Mr. Rahmatulla said, it be true that the deaths were between two and three hundred up to the 23rd, and if, as is most probable, the death-rate was 70 per cent., then in September there must have been over 400 cases. This is borne out by the statistics of the month of October

which we give below in tabular form, compiled from telegrams published in the *Englishman* and the *Pioneer* :—

Dates.	Number of New Cases.	Number of Deaths.	REMARKS.
1st October 1896.	24	24	Numbers leaving Bombay
2nd " ...	21	15	
3rd " ...	33	15	
4th " ...	10	16	
5th " ...	16	12	
6th " ...	16	18	Dead rats found in bags of dates brought to Bombay. Plague at Ahmedabad.
7th " ...	17	8	
8th " ...	20	7	
9th " ...	8	6	
10th " ...	13	6	
11th " ...	12	7	Hindu discontent at forcible removal to Infectious hospitals.
12th " ...	5	7	
13th " ...	9	4	
14th " ...	6	5	
15th " ...	10	5	
16th " ...	4	8	
17th " ...	12	10	
18th " ...	13	10	
19th " ...	19	9	
20th " ...	14	9	
21st " ...	17	10	
22nd " ...	13	11	
23rd " ...	17	8	
24th " ...	17	13	
25th " ...	9	13	
26th " ...	10	9	
27th " ...	7	14	
28th " ...	14	5	
29th " ...	9	10	
30th " ...	6	1	
31st " ...	11	6	
Total ...	412	301	

From this table it will seen, if the figures are correct, if there has been no concealment of cases, that the epidemic has been rather capricious in its progress, showing a tendency to decrease from the 9th to the 16th October, again increasing till the 24th, and after that there was fluctuation till the 31st with a tendency to decrease again. There was another ugly and alarming fact in connection with it, and that is that it soon ceased to be confined to Mandvi, but was spreading to other parts of the city, Bhuleswar, Byculia and Colaba having become affected. No wonder that the people, especially the Hindu residents, were seized with panic which was aggravated by ominous prophecies of unscrupulous and designing men. The exodus commenced as soon as the frightful nature of the epidemic

was realized, and by the end of October several thousands, over more than twenty, left Bombay. This exodus means the spread of the contagion beyond the limits of Bombay; and cases, though very few, were actually noticed so early as the 8th October in Ahmedabad.

The Government of India has sent Dr. Haffkine, and the Government of the Panjab Mr. Hankin, to Bombay to investigate the Plague and report on it. They have commenced operations in concert, but have not yet come to any definite conclusion. Prof. Haffkine has found bacilli similar to those discovered by Prof. Kitasato of Japan and Dr. Yersin of France, but has very wisely abstained from passing a positive opinion.

It is very gratifying that the authorities in Calcutta have not been slow to realize the danger to which the city is exposed from the spread of the epidemic. On receiving the first telegraphic news of its commencement in Bombay, the Corporation of Calcutta, under the guidance of its energetic Health Officer, addressed the Government of Bengal on the subject, and that Government began at once to act promptly. We subjoin the Resolution of Government to show how it has already taken all possible measures to prevent the introduction of the disease into the metropolis. Dr. Simpson, the Health Officer of Calcutta, deputed one of his laboratory assistants, to Bombay to study the disease and to forward to him specimens of the blood and secretions of the plague patients and cultures of any bacilli that may be found, to serve as specimens for comparison with cases that might unfortunately arise in Calcutta. The health officer, in his zeal, thinks he has discovered a few cases, one in Howrah a recent arrival from Bombay, and three others in Calcutta, whom he believes to be suffering from the plague. We had no opportunity of seeing the Howrah case, but we have seen the three Calcutta cases and are positively of opinion that these latter were not cases of plague, but were simple cases of fever with very very slight enlargement of the glands. All the cases have recovered, and have not proved to be foci of contagion for the spread of disease. If these were cases of plague then we have the plague everywhere and at all times.

Bengal Government Resolution,—dated the 10th October 1896.

In the Government letter No. 770T.—M. of the 30th September, a copy of which is annexed to this Resolution, the Corporation of Calcutta were addressed on the subject of the reported outbreak of plague in Bombay, and it was suggested that the following measures

should be taken under sections 321 to 334 of the Calcutta Municipal Act :—

- (1) To declare bubonic plague or any form of typhus fever with glandular swellings to be a dangerous disease, regarding any case of which information should at once be communicated to the Commissioners or their Health Officer under section 321.
- (2) To select a site for a temporary Plague Hospital away from the main thoroughfares, and to arrange for its prompt erection should the need arise.
- (3) To provide special carts for the conveyance of cases to Hospital, and to arrange for the disinfection of both carts and drivers.
- (4) To divide the Town into Sanitary Circles of manageable size, and to place in charge of each a Medical Inspector with full powers to carry out the measures ordered by the Commissioners or Government for preventing the spread of the disease.
- (5) To draw up Regulations under section 334 of the Act, in order to give effect to such special measures as might be necessary to prevent, check or mitigate an outbreak of plague.

The Corporation were further informed that the Government would be prepared to appoint a Medical Board to assist the Corporation in devising measures to deal with the disease.

2. While trusting that no necessity for the above measures would arise, the Lieutenant-Governor expressed his entire approval of the steps taken under the Commissioners' orders to give special attention to the cleansing and sanitation of Calcutta. A copy of the letter was sent to the Commissioner of Burdwan, who was directed to instruct the Magistrate of Howrah to move the Municipality to take the necessary action to cleanse and sanitize the town.

3. A case of mild bubonic plague is now reported to have occurred in Howrah, the patient being a Eurasian lad of 17, who arrived from Bombay on the 26th September, and is believed (though this is not certain) to have brought the disease with him. It may be hoped that the case is an isolated one, and that no general outbreak of the disease will take place. But the occurrence of even a single case in a crowded area where the sanitary conditions are such as to favour the spread of contagion, if not actually to generate the disease, convinces the Lieutenant-Governor that the time has now come to adopt further preventive measures.

4. It has accordingly been decided to appoint the following gentlemen to form a Medical Board for the purpose of determining the action to be taken by all executive authorities, whether official or municipal, with the object of preventing and checking the plague throughout Bengal :—

Hon'ble H. H. Risley, C. I. E., Secretary to Government, Financial and Municipal Departments	President.
Hon'ble P. Playfair, C. I. E.	Members.
Hon'ble J. G. H. Glass, C. I. E., Chief Engineer	...	...
Surgeon-Colonel Ross, Inspector-General Civil Hospitals	...	...
Surgeon-Captain Dyson, Sanitary Commissioner	...	...
Dr. Mahendra Lal Sircar, C. I. E.	...	...
Surgeon-Captain Robson-Scott, Offg. Deputy Sanitary Commissioner, Presidency Circle	Secretary.

5. All cases of illness which are believed to be plague should at once be reported to the Board by the Magistrate of the district where they occur, and in Calcutta by the Health Officer of the Corporation. The orders issued by the Board on matters affecting health and conservancy should be deemed to be the orders of Government and carried out with all possible despatch by all executive authorities. Steps will hereafter be taken, if necessary, to legalise all action taken during the present emergency. Nothing should meantime prevent the Board from ordering, or the executive authorities from carrying out, any reasonable measure of precaution, segregation or disinfection which may appear called for.

6. The areas which the Board will have in the first instance to deal with in order to arrest the spread of the plague, are the following :—

- (1) The Town of Calcutta.
- (2) The Port of Calcutta.
- (3) The Municipality of Howrah.
- (4) The small Municipalities adjacent to Calcutta and Howrah.
- (5) The lines of railway.

7. *The Town of Calcutta.*—The plague has already been declared to be a dangerous disease under section 321 of the Municipal Act, and it is further understood that the measures indicated in the Government letter of 30th September have already been adopted, or are in course of adoption by the Corporation. The Commissioners have asked the Government to select for them a Chief Superintendent to organise and control the conservancy and nuisance branch of the Health Department for three months on a salary of Rs. 1,000 a month. Dr. Banks, Civil Medical Officer of Puri, who possesses in a high degree the requisite qualifications, has been appointed to the post, and directed by telegram to join at once. Sites have been selected in Maniktola for an isolation hospital and a special burning-ghat and burial-ground for plague patients. The Town is being divided by the Health Officer into Sanitary Circles, and Regulations under section 334 of the Act are about to be submitted for the sanction of Government. The Lieutenant-Governor feels sure that the Commissioners, the Executive Officers of the Corporation, and their subordinates will work cordially with the Medical Board and carry out promptly and fully all the recommendations of that body.

8. *The Municipality of Howrah.*—The Chairman of the Municipality has been instructed by telegram to isolate the patient now suffering from the plague, to destroy his clothes, and to disinfect the house in which he has been living. The Municipality have asked by telegram for the appointment of an officer of the rank of Surgeon-Captain as Health Officer of the town on a salary of Rs. 1,500 a month and carriage allowance; but the Lieutenant-Governor considers that the needs of Howrah can best be met by transferring the present Civil Surgeon, who is in weak health, to a lighter station, and deputing a younger officer, Surgeon-Major Walsh, to carry on the combined duties of Civil Surgeon and of Health Officer with the assistance of an

experienced supervisor of the Public Works Department, who will receive Rs. 500 a month with horse allowance and house rent. The Deputy Sanitary Commissioner of the Western Circle was ordered to Howrah to assist in sanitary measures two days before the case of plague was reported to Government.

9. <i>The adjacent Municipalities.</i> —The Chairmen of the Municipalities noted in the margin should now report to the Medical Board, through the Magistrate of the district, what steps they propose to take to prevent the plague spreading to their jurisdictions. The Deputy Sanitary Commissioners will be directed to visit these Municipalities as soon as possible, and to explain to the Chairmen personally what ought to be done.		
Hooghly-Chinsurah ...	In Hooghly district.	}
Serampur ...		
Uttarpara ...		
Baidyabati ...		
Bhadreswar ...		
Kotrang ...	In Howrah district.	}
Bansberia ...		
Bally ...		
Cossipore-Chitpur ...		
Maniktola ...		
Baranagar ...	In the 24-Parganas.	}
South Suburban ...		
South Dum-Dum ...		
North Dum-Dum ...		
South Barrackpore ...		
North Barrackpore ...		
Baraset ...		
Naihati ...		

10. *The Port of Calcutta.*—The Government of India have been moved by telegram to sanction the introduction, with such modifications as may be necessary, of the revised rules for quarantine against plague which were introduced in August 1894 for the protection of Calcutta from the importation of plague from Hongkong. It has also been suggested that under section 19 of the Sea Customs Act the export of rags and second-hand clothing from Bombay should be prohibited. Steps are being taken to provide accommodation for plague patients near the quarantine anchorage at Diamond Harbour, and all suspected vessels will be carefully examined and disinfected by the Port Health Officer before communication with the shore is permitted.

11. *The lines of Railway.*—Under section 71 of the Railway Act IX of 1890, a railway administration may refuse to carry persons suffering from any infectious or contagious disease, and under section 117 any such person may be removed by a railway servant from the carriage in which he is travelling. On the 1st October, the Governor of Bombay was asked by telegram whether, in event of the disease increasing, he would be prepared to move the Railway Company to prevent suspected persons from leaving Bombay by rail; and on the next day, His Excellency replied that the Municipal and Railway authorities were in consultation, and that if the disease increased the necessary measures would be taken. The East Indian Railway have already posted native doctors at Asansol, Allahabad and Tundla to scrutinise all passengers, especially those coming from Bombay, while tickets are being checked. The Assistant Superintendent of Emigration at Raniganj and Asansol has been instructed to give all possible assistance to the railway officials in the matter. The Government of the North-Western Provinces and Oudh, and the Administration of the Central Provinces, have also been addressed on the subject.

PATHOGENETIC SYMPTOMS OF ACALYPHA INDICA.

DRAWN UP IN THE SCHEMA FORM FOR THE INTERNATIONAL
HOMEOPATHIC CONGRESS.

BY DR. MAHENDRA LAL SIRCAR, M.D., C.I.E.

Natural order : Euphorbiace.

Common names in India : Multajhuri, Mukta varshi, Shwet-vasanta, (Bengal) ; Luppi, Kuppameni, Khekli (Southern India).

Preparation : Tincture of the fresh herb.

Provers : Babu Joy Kissen Ghosal and
Babu Gopal Chandra Datta.

Remarks : The action of the drug on the mind is limited to to "pceevishness and irritability" in one of the provers, and that for a short time. The fact, that it has been empirically used in mania by Mahometan physicians, makes it probable that it may have more profound action on the brain than has yet been observed.

Its action on the alimentary canal is most marked, and is very extensive, commencing at the mouth and ending at the anus. It increases the secretions of the salivary glands. It produces decided pains in the teeth which seem to be of a nervous character. The pains in the teeth were aggravated by contact with cold water, and induced the prover to grind them or press the lower against the upper which seemed to afford relief. It produces burning in the pharynx, œsophagus, stomach and intestines. It produces nausea, and in sufficiently large doses would produce vomiting. The development of gas in the intestines might be due to its action on the liver, causing a deficiency of the biliary secretion, or to its action on the mucous membrane of the whole intestinal canal. It produces diarrhœa, the result probably of indigestion in the first instance, and of over-secretion of the intestinal mucous membrane and of its glandular structures. The diarrhœa is very troublesome and exhausting and is characterized by spluttering from the forcible expulsion of noisy flatus. It is not a little singular that in one of the provers, Babu Gopal Chandra Datta, diarrhœa did not appear during the actual proving; it made its appearance a full week after the discontinuance of the taking of the drug, and persisted for over a month. Like the diarrhœa of his brother prover, Babu Joy

Kissen Ghosal, the passage of the stools was attended with spluttering, but unlike it, it was characterized by *scanty and insufficient* stools.

Its action on the respiratory apparatus has not yet been observed to extend beyond the pharynx. It produces a sort of catarrh in the nose, which soon settles in the pharynx, causing it to secrete abundance of mucus of a darkish color like that of tarnished lead, and which is hawked or coughed up in lumps with considerable froth. Stethoscopic examination has not revealed any affection of the trachea or bronchi or the air-cells. The probability seems to be that if the provings are pushed further, these parts of the respiratory apparatus may get involved in its action. But perhaps it is necessary, for this purpose, that we should have other provers whose lungs are more, and digestive organs less, susceptible to the action of the drug. The clinical experience of our school with the drug in hæmoptysis and also in uterine hæmorrhage shows that it must have a hæmorrhagic action not only on the lungs, but on other organs, at least on the uterus. The drug has evidently varied and important pharmacodynamic properties, and deserves a thorough and exhaustive proving in both sexes.

Its action on the fifth nerve has produced a sort of neuralgic pains in the temples and frontal region. Its action on the skin has produced itching and circumscribed furuncle-like swellings or flea-bite-like (urticarial) eruptions. The itching and the eruptions were characterized by being aggravated by drafts of cold air and by cold bath.

The therapeutic application of the drug may be inferred from what we have said above, and especially from a careful study of the whole proving. For the present at least we may safely use it in diarrhoea when accompanied by rumbling in the intestines and emission of noisy flatus, and certainly deserves a trial when *Nat s.*, *Thuja*, and *Arg. n.* fail. It may be used also in the characteristic catarrh and cough which it has produced. It may be used in neuralgic (and perhaps also catarrhal) headache (temporal and frontal) and toothache.

I may here mention that I have used it with marked success in diarrhoea characterised as above. It has been used with benefit in the bronchitis of infants. Following Dr. Marc Jousset I have been able to control with it chronic uterine

hæmorrhage. This fact leads us to expect from it symptoms referrible to the female generative organs.

N.B. The symptoms, experienced by Babu Joy Kissen Ghosal alone, are marked J, those by Babu Gopal Chandra Datta are marked G.

Mind.—Peevish and irritable.

Disinclination to work.

Head.—Dull headache at 12 noon, starting in the frontal region gradually settled in the left eyebrow. The pain then seemed to circulate round the external margin of the orbit preventing full opening of the eyelids.

Dull sensation in head and a pressure in the stomach followed by nausea and cructations.

Oppressive frontal headache, preventing the eyes being shut though sleepy.

Dull and heavy headache with stiffness of neck, preceded by catarrhal symptoms.

Heavy head and eyes with dull appetite on waking in the morning.

Left sided headache, felt on writing, lasted for 2 hours and then gradually passed away.

Oppressive headache seated around the eyebrows, preventing the opening of the eyes fully.

Dull headache, especially in frontal region.

Profuse perspiration in the head during sleep at night.

Sensation of heaviness in the head, especially in the frontal region.(J).

A dull oppressive headache forced me to lie down and remain quiet for more than an hour.

Slight dull aching of both temples in the afternoon ; that of right ceased in a few minutes, that of left persisted, but ceasing now and again.

Dull aching of both temples. Aching of both temples returned on awaking about midnight, soon followed by a sort of nausea with tendency to vomiting

Aching of left temple on waking, after sleep, in the morning.

Hot feeling in the forehead.

Boring in the left temple early in the morning on awaking.

Pressure of the left temple. Evanescent pressure in right temple, coming and going.

Throbbing aching of the left temple.

Pressing-aching of the left temple.

Hemicrania.

Slight heaviness in right occipital region. Heaviness of the occiput.

Aching along the occipito-parietal sutures.

Pressing inwards of both temples.

Boring pain in the right temple.

After a heavy sleep at night the head (frontal region) felt queer in the morning, such as is felt after a sleepless night.

Frontal headache, in evening, relieved after meal.

Short intermittent throbbing (more like snapping) of a blood vessel above the right ear.

Pulsating pain, coming and going in quick succession, above right ear.

Swinging of the head with nausea and hot feeling of the whole body with desire to undress.

Swinging of the head associated with a sensation of 'goneness in the stomach and warmth of the whole body.

Headache, and cough.

Pressing down pain on the top of the head.

Burning on the top of the head.

Aching of the occiput. (G).

Head and eyes seemed dull and heavy, inclination to lie down, felt sleepy, but could not sleep (morning).

Eyes.—Dull aching of the eyebrow, the aching pain seemed to circulate round the external margin of the orbit preventing the eyelids from being fully opened.

Burning in the eyes.

Thin watery discharge from the eyes and nose, preceded by sneezing and catarrhal symptoms.

Watery eyes.

Heavy eyes and head in the morning. (J.)

Pressure in the right upper eyelid, lasting a few seconds.

Pressing down pain in the right and left upper eyelids.

Aching pressing down pain of the right supra-orbital region.

Aching of the right half of the supra-orbital region.

Aching of the outer portion of the left supra-orbital region, with hot feeling all over the body and desire to throw off the clothes.

Aching of the right supra-orbital region, the pain seemed reflected to the right upper eyelid.

Aching of the left supra-orbital region.

Pressing down pain in both the right and left supra-orbital region involving both the upper eyelids. (G).

While washing hands and mouth a small flash or spark of bright light emanated from the outer corner of external margin of left orbit.

Heaviness of the eyes on waking from sleep.

Oppressive headache seated around the eyebrows, preventing the

opening of the eyes fully.

Spark of light darting from the outer corner of the left eye, it was brilliant like an electric spark during day and resembled a firefly at night. (J).

Ears.—Short intermittent throbbing of a blood vessel above the right ear. (G.)

Nose.—Thin watery discharge from nose and eyes, preceded by sneezing and catarrhal symptoms.

Frequent fits of sneezing with running of nose and eyes. During fits of sneezing, a number of small shining sparks like fire-flies appeared before me.

Nose felt as if it would run, though no actual running.

Fits of sneezing, slight coryza of both nostrils.

Fits of sneezing at 5 P. M., with thin watery running from left nostril.

Irritation of the right nostril such as is felt before sneezing at 9 P.M.

Sneezing with titillation of the left nostril.

Running of the nose accompanying fits of sneezing. (G).

Sneezing, with dislodgment of a lump of blackish mucus from throat.

Thick nasal mucus, from morning till noon. On getting up in the morning discharge of thick mucus from the nose and a dull frontal headache. In the afternoon a collection of mucus in throat and left nostril.

Teeth and Gums.—Toothache with swelling of the gums.

Swelling of the gums.

Bleeding of the gum around the canine tooth of the upper jaw at the time of brushing.

Aching of the molars, temporarily relieved by pressing the upper ones against the lower.

Aching of the molars of both the jaws with a slight swelling of gums. (J).

Dull aching of the right upper molar teeth, the pain radiating to right temple.

Aching of the upper incisors ; also of the lower incisors.

Aching of the left upper molar teeth.

Aching of the right lower bicuspids.

Irregular aching, rather erratic, of different teeth, now one, again another.

Pain in left molar teeth, better by pressing the teeth together.

Aching of the right upper molars at 8-30 P.M., aggravated by cold water.

Sensitiveness of right upper molar and lower incisor teeth, cold water producing aching in them.

Aching of lower front teeth.

Aching of the right lower molar teeth.

Slight aching pain of the edges of the upper front teeth. (G).

Aching of the right molar and canine of the upper jaw, with a dull pain in the right eyebrow and around the eyes. (J).

Mouth.—Sensation of dryness of the tongue, passing away after breakfast at 11-45 A.M.

Mouth full of saliva.

Burning in soft palate.

Dryness of the tongue accompanying cough. (J).

A sort of pleasant sensation, such as is produced by peppermint, felt towards the tip of the tongue.

Tingling in tip of the tongue as if from contact of peppermint.

Sensation of burning in the fore part of the tongue, hard palate, throat and chest.

Flow of water into the mouth.

Watering of the tongue.

Dryness of tongue (J.G.)

Biting sensation in small spots of tongue such as is caused by touch of salt in ulcerated and raw surfaces and watering of the tongue.

Flow of water into the mouth which on swallowing induced nausea.

Flow of water into the mouth accompanied by nausea, after meal.

Tongue felt dry and thick as if covered with fur.

The inside of the mouth felt as if thickly covered with fur and the mouth had not been rinsed for days.

Accompanying a pricking pain in the right hypogastrium, flow of water into the mouth which tasted saltish and produced nausea on swallowing. (G).

Flow of water into the mouth accompanying heart-burn. (J).

A small furuncle in the right upper lip and inside the margin of the lower lip, disappeared without suppuration. (G).

Dryness of the lips which had to be moistened repeatedly with the tongue. (J).

Throat.—Sensation of dryness of the throat, felt specially during empty deglutition, relieved for an hour after breakfast.

Sensation of collection of mucus in the throat.

Throat full of mucus, with slight cough now and then.

Slight dryness of the throat on awaking in the morning.

Tickling sensation in the throat which brought on cough with sticky sputa, accompanied by dryness and burning of the throat.

Throat seemed loaded with mucus which was easily expectorable.

Slight dryness of the throat and nausea, relieved by a cup of sugar water with lemon juice.

Burning in the throat and soft palate, with a desire for acidulated drinks.

Throat choked with mucus which was brought out in small darkish lead colored lumps. (J).

Sensation of burning in the throat which travelled to the upper part of the pharynx. Then a sort of tickling or rather acrid sensation in throat provoking cough; tickling relieved by coughing, but it soon returned and occasioned cough again.

Burning in the throat.

Soreness in the throat such as comes on after taking cold.

Accumulation of easily expectorable lumpy but not tough mucus in the throat.

Tickling or acrid feeling in the throat occasioning hemming and hawking to clear it.

Sensation of burning in throat.

Disposition to clear the throat.

Tickling in the throat and cough early in the morning on awaking.

Dry feeling in the throat.

Sensation of roughness in the throat.

Sensation of thickness in the throat with inclination to hem and hawk.

Accumulation of mucus in the throat dislodging easily.

Difficult expectoration leaving a scraping sensation in the throat.

Easy expectoration after cold bath.

Easy expectoration of tough blackish mucus from the throat without cough.

A lump of blackish mucus dislodged involuntarily from the throat while sneezing.

Irritation in the throat and cough with a small blackish expectoration.

Expectoration of a blackish lump of mucus without cough from throat.

Collection and lodgment of mucus in the throat which was easily expectorated in lumps of a dark colour as if touched with ink, and each time it was expectorated a scraping sensation was felt in a small spot in the throat.

Cough with a little bright red blood from the throat.

Desire to clear the throat necessitating hawking.

After my bath at 10 A.M. mucus began to accumulate in the throat as soon as expectorated (J). Accumulation of mucus in throat with disposition to hawk and cough.

Accumulation of mucus lower down the throat. (G).

Burning of œsophagus, felt most at cardiac orifice, radiated to the heart.

Thirst, Appetite and Taste.—Diminished appetite and nausea.

Great desire for acid fruits and sugar water.

Want of appetite at the time of nightly meal.

Thirst with dryness of throat disappearing after bathing in cold water.

At 11-30 A.M. very thirsty, drank a tumblerfull of water.

Very great thirst after stool.

Dull appetite following a feeling of nausea and fullness of stomach.

Dull appetite.

Dull and thirsty at 9 A.M., with inclination to take acidulated drinks.

No appetite at dinner time (J).

Thirsty on awaking at midnight.

Taste in the mouth such as is felt after taking sugar of milk or something intensely sweet.

Thirst at 2 A.M. (J&G). Felt thirsty on awaking at 3 A.M. and out sorts. (J).

Thirst with dryness of the lips and throat.

Stomach.—Pressure in the stomach followed by nausea and eructations.

Fullness of stomach followed by eructation with inclination to vomiting.

While the mouth and teeth were being washed in the morning a quantity of bitter fluid was thrown up.

Nausea and fullness of stomach followed by flatulence and dullness of appetite.

Sensation of acidity at night. (G).

Feeling of indigestion as if the food was lying heavily on the stomach ; especially early in the morning on awaking.

Acidity early in the morning.

Burning in pit of stomach.

Burning in epigastrium.

Heartburn ; with flow of water in the mouth.

Sensation of goneness in the stomach from 7 to 8-30 A.M., with warmth of the whole body and swinging in head compelling the prover to keep quiet.

Nausea and sick feeling excited at breakfast and lasted nearly the whole day.

Nausea with feeling of lassitude and weariness.

At 8 A.M. immediately after a dose, indescribable feeling of nausea with loathing of food, persisting even after my cold bath.

Nausea and eructations associated with dryness of throat and tongue.

Nausea and fullness of stomach followed by flatulence and dullness of appetite.

Nausea and eructations somewhat relieved by cold bath.

Eructations and heartburn. Stomach and abdomen loaded ; eructations affording no relief, passage of flatus giving some relief.

Eructation after breakfast without heart-burn.

Eructation and nausea relieved by smelling of lemon.

Temporary though very distressing nausea, with tendency to vomiting

preceded by aching of both temples.

Nausea and a renewal of the smell of the tincture.

Early in the morning on awaking expelled flatus and belched.

Nauseating eructations, generally after taking the medicine.

Unsuccessful desire to belch.

Loud eructation.

Tasteless eructations. Eructations and thirst in the morning.

Eructation and passage of flatus almost simultaneous.

Unsatisfactory (not free) belching, not relieving the sensation of distension of the abdomen.

Nausea induced by swallowing the water flowing into the mouth.

Belching, which relieved the distension of the abdomen.

Nausea after meal proceeding from the precordial region, with flow of water into the mouth.

Gurgling noise under the left false ribs (posteriorly) after supper.

Incomplete eructation.

Sour eructations and heartburn.

Rancid or foetid eructations.

Eructations, nausea and thirst, relieved by a few flakes of orange.

Burning of the whole alimentary canal, most painful at cardiac orifice.

Abdomen.—A little heaviness of the lower bowels followed by griping relieved after repeated emission of flatus which was offensive (flatus not usually offensive with me).

Development of flatulence.

Frequent noisy offensive flatus.

Fulness of abdomen in the morning with emission of wind, dull heavy eyes, sleepy but no sleep, and inclination to lie down.

A very bad griping of the bowels, at 3 P.M., somewhat relieved by a stool.

Flatulence preceded by a feeling of nausea and fullness of stomach.

Griping of the intestine followed by a desire to stool which on evacuation relieved the pain.

Griping of the intestines inducing an evacuation of the bowels, which, though scanty and diarrhoeaic, relieved the griping.

Rumbling in the abdomen which seemed loaded with gas.

Dull aching pain of the upper abdomen such as is caused by indigestible food, followed by burning of the same region.

Dull griping pain under the umbilicus after the stool in the morning.

Movement of flatus in the lower abdomen, with its emission during the stool.

Generation of wind in the lower bowels and passing up to the upper, with inclination to pass flatus.

Abdomen felt full with less than half the usual quantity of food taken in the evening.

Collection of wind in the lower abdomen.

Flatus generating in the sigmoid flexure moved towards the right two fingers breadth under the navel and then took a downward course.

Croaking noise in the lower abdomen starting from under the last false ribs.

Dull aching pain in the middle of the abdomen.

Dull aching of the abdomen and foetid flatus.

Dull pain in the centre of the abdomen, the pain darting right and left towards the nipple.

Sensation of fullness of the abdomen.

Hot feeling in the lower abdomen.

Boring in the left hypochondrium.

Burning of the upper part of the lower abdomen with pressure of wind towards anus.

Burning in the epigastric region.

Aching of the upper abdomen as if from indigestible food.

Sensation of distension of the abdomen, without actual tympanites.

Pricking pain in the lower abdomen.

Sensation of puffiness of the abdomen relieved by loud eructation.

Dull burning aching of the lower abdomen.

Subdued gurgling noise in the lower abdomen with dull griping pain.

Pricking pain in the abdomen aggravated at 9-15 P.M.

Sensation of burning in the different parts of the abdomen and chest.

Burning of the lower abdomen with a sense of goneness there.

Dull pricking pain here and there in the whole abdomen.

Dull aching of the abdomen.

Flatulent distension of the abdomen.

Cutting pain in the abdomen as is caused by a blunt instrument.

Distension of the abdomen after meal about 2 P.M.

Constricting dull cutting pain with hot burning flashes in the whole abdomen, the hot flash extending upwards towards the chest.

Pricking pain in the abdomen above the umbilicus as if by some blunt instrument, somewhat relieved by emission of flatus which was noiseless.

Flatulent crampy pain in the abdomen.

Cutting pain in the upper abdomen with sensation of warmth.

Hot burning sensation in the upper abdomen.

Dull burning of the abdomen.

Burning of the lower abdomen, whence a flame seemed to extend to the sternum.

- Cutting pain in the lower abdomen relieved by passing flatus.
 Fermenting noise in the abdomen.
 Cutting pain in the upper abdomen with urging to stool.
 Gripping pain in lower abdomen.
 Fullness of the abdomen with urging to stool.
 Fullness of the abdomen after breakfast and frequent belching.
 Sense of distension of the abdomen with emission of noiseless flatus, which did not lessen the feeling of distension of the abdomen.
 Dull cutting aching pain in the upper abdomen ; pressure of the hand over the part causing nausea and a feeling of tenderness.
 Pricking pain in the right hypogastrium with flow of water into the mouth which tasted saltish, and which when swallowed produced nausea.
 Accumulation of wind in the bowels.
 Pricking pain in the left side of the lower abdomen, and sticking in the chest under the right nipple.
 Crampy pain in the upper abdomen followed by eructations.
 Abdomen heavy and loaded with gas, with eructations and yawnings.
 Rumbling in the abdomen and emission of offensive flatus.
 Rumbling and gripping in the abdomen and eructations.
 Rumbling in abdomen and gripping in intestines with bearing down in lower bowels.
 Fullness of the abdomen not relieved by eructation, but the emission of wind eased it somewhat.
 Rumbling in the abdomen near the descending colon.
 Sigmoid flexure tympanitic with fermenting noise there.
 Heaviness and distension of the bowels after meal, relieved by drinking of cocoanut milk.
 Aching under the false ribs.
 Colicky pain in the upper abdomen.
 Cutting pain in the lower abdomen on awaking from sleep at 4 A.M.
 Flatulent up-heaving of the lower abdomen with dull aching pain.
 Noise in the abdomen as if from fermentation.
 Obtuse cutting pinching pain in the lower abdomen which seemed reflected to the upper abdomen, with hot sensation as if a flame emanating from ilco-cæcal region passing upward towards sternum.
 Distension of the abdomen relieved by belching, but it returned again before long, and the abdomen was puffed up as before.
 Offensive flatus, movement of flatus with subdued croaking noise in the left intercostal region, four fingers' breadth below left nipple.
- Rectum, Anus and Stool.**—Soft reddish-brown stool at 9-30 A.M., accompanied and followed by spluttering noise.

Urging to stool on leaving bed.

Diarrhoeaic stool with flatus ; morning stool insufficient ; at 4 P.M. stool watery, warm, passed with flatus, last portion containing mucus. At 6 P.M. Watery stool. Mucous stool, frothy, first reddish or brownish and then greenish, warmer than previous one. After stool very thirsty.

At 8 P.M. liquid stool gushed out in torrents. Had to sit for some-time at stool with frequent discharge of wind, with frothy mucus ; very weak after stool.

Frequent emission of noiseless flatus after breakfast.

Roused from sleep by an urgent desire for stool, with discharge of scanty thin watery stool of offensive and nauseating smell.

Insufficient morning stool passed with noisy flatus.

Small diarrhoeaic stool attended with noisy flatus ; no desire for stool one morning but passed water more than once and emitted offensive flatus.

At 8 A.M. little diarrhoeaic stool, which brought no relief.

On awaking in the morning felt a desire for stool early, the stool was first watery and then soft, coming out in lumps, followed by passing of wind.

Urgent desire for stool on rising from bed, the stool was diarrhoeaic and mucous, passed with flatus. with griping in the bowels.

Dull griping pain under the umbilicus after passing stool in morning. Flatus during stool.

Inclination to pass flatus.

Insufficient stool.

Desire to expel flatus.

Offensive flatus.

Frequent emission of flatus without noise. Repeated noiseless foetid flatus.

Noisy flatus sometimes passed with effort.

Cold wet feeling in the anus.

Emission of flatus now and again.

Noisy flatus followed by eructation.

Urging to stool in the morning an hour earlier than usual, which however could be suppressed but which led to frequent emission of noiseless flatus.

Urging to stool accompanied by anxiety in the precordial region.

Itching crawling at the anus.

Soft stool at the usual hour in the morning passed with a smarting feeling in the anus, the smarting was gone on washing.

Crawling in the rectum as if by worms.

Burning of the anus during stool in the morning.

Thin spluttering insufficient stool ; soft insufficient stool in morning.

Hard insufficient stool in the morning.

Omission of stool at the usual hour in the morning ; at a late hour, bullet shaped stool passed after pressing of the abdominal parietes.

Good formed stool at the usual hour in the morning.

Soft spluttering stool.

Scanty stool expelled with spluttering noise.

At 8 A.M. Stool, consisting of lumps of soft semi-liquid stools coming out in parts at intervals of 3 or 4 minutes, each evacuation being ushered in by intestinal griping and bearing down feeling, the evacuation occupying an unusually long time, the whole quantity passed being large and causing relief of almost all the symptoms observed on rising from bed.

Semi-liquid light brown stool. Semi-liquid insufficient stool causing pain in rectum and anus.

Desire for stool followed by frequent emission of flatus early in the morning.

Urgent desire for stool which was diarrhoeaic, and attended with and followed by spluttering noise, with no relief of the fullness of the abdomen which seemed full of gas.

Semi-liquid stool at 6-30 A.M. (2nd stool).

Watery stool, squirting out from the anus, with hot sensation, the stool was frothy and mucous especially the last portion (3rd stool).

Urging to stool a fourth time, the stool being scanty watery and mucous, with tenesmus and bearing-down pain during stool, the last portion being entirely mucous, frothy, and of greenish colour.

Emission of noiseless and offensive flatus, every 5 or 6 minutes, followed by a desire for stool.

Insufficient diarrhoeaic stool attended and followed by spluttering noise.

Involuntary escape of very small quantities of thin nasty smelling yellow liquid stool, with passing of flatus, at 10 P.M., just before going to bed.

Desire for stool ushered in by a rumbling in the bowels. Then small soft or semi-liquid stool attended with spluttering noise, bearing down pains and tenesmus, the last portion containing a little mucus.

Urine.—Urine more than once, instead of usual stool in the morning, and frequently passed offensive noisy flatus.

Noisy flatus while making water.

High coloured urine passed soon after drinking at 2 A.M., causing slight burning and smarting in the urethra.

Male Sexual Organs.—Nocturnal emission.

Chest and Respiratory Organs.—Sneezing in the morning.

Sneezing with titillation of left nostril.

Cough with slight nasal catarrh.

Thick nasal mucus.

Sputa like small shots, roundish in form and of ash or lead colour.

Momentary sensation of heat radiating all over the body from the region of the heart.

Burning of the œsophagus felt most at cardiac orifice, it radiated towards the heart.

Sensation of burning, felt mostly at cardiac orifice and throat.

Cough with slight expectoration.

Pressure and heaviness in the chest. Heaviness of chest.

Sensation of burning in the chest.

Movement of flatus with subdued croaking noise in the left intercostal region, four fingers' breadth below left nipple.

Burning in the precordial region.

Sticking pain in the precordial region.

Dull aching of precordial region.

Sensation of burning in different parts of the chest and abdomen.

Sticking pain in the right chest near the articulation of the 5th rib with the sternum.

Heaviness of the chest when walking.

Hot flashes extending from the abdomen upwards towards the chest.

Anxious feeling in the heart.

Heaviness in the chest and anxious feeling about the heart.

Blunt sticking pain below the left nipple.

Anxiety in precordial region and urging to stool.

Dull burning of the chest and abdomen.

Dull obtuse sticking pain in a small spot in the precordial region.

Feeling of emptiness in the chest.

Sense of weakness in the chest.

Heaviness and oppression in the precordial region.

Dull aching of the left chest down to a little below the nipple.

Aching under the false ribs.

Sense of weakness in the precordial region, with heaviness of breath.

Sense of weakness in the precordial region, aggravated by a sort of dull sticking pain there.

Heart-burn, with flow of water into the mouth.

Oppression in the chest and pain in the sternum at the time of coughing and during forced respiration.

Tickling sensation in the pharynx.

Cough with a little bright red blood from the throat.

Cough with expectoration of tough blackish mucus from throat.

Cough with dryness of the tongue and throat ; sputa came out like small shots roundish in form of ash or (lead) color.

Fits of cough preceded by tickling in the throat.

Disposition to clear the throat. Cough distressing.

Neck and Back.—Stiffness of the neck with dull headache, preceded by catarrhal symptoms.

Aching of the lumbar region.

Gurgling noise under the left false ribs (posteriorly) after supper.

Upper Extremities.—Dull aching of the left shoulder joint and right elbow joint.

Aching of the right wrist.

Gnawing aching of the left arm and shoulder.

Intense itching of the palm of the left hand a little below the middle.

Lower Extremities.—Dull aching of the left ankle and right and left knee joint.

Aching pain in the left hip joint.

Aching of the left lower limb from the knee up.

A small furuncle in the right hip, felt tender when washing.

Aching of the left lower extremity from the loins downwards.

Gnawing aching of the left leg and left shoulder.

Intense itching of the lower extremities at night in bed.

Great itching of the hips with flea-bite like eruptions,scratching aggravated itching.

Dry itching in the small of the back.

Itching of the nates, inducing scratching of the parts and producing flea-bite like eruptions.

Darting pain above the upper angle of the left groin followed by noiseless fiatus.

Heaviness of the feet and weariness of the limbs, soon after walking.

Skin.—Small furuncle in the right hip, another inside the margin of the lower lip, disappearing without suppuration.

Great itching of the hips with fleabite like elevation (or eruption), scratching aggravating the itching.

Dry itching in the small of the back.

A fleabite-like nodule on the dorsal region which itched the more it was scratched.

Intense itching of the palm of the left hand a little below the middle.

Itching of the nates inducing scratching of the part.

Itching of the nates producing fleabite-like eruptions on scratching ; in bed the itching was very annoying. (G).

Itching of the forehead and right shoulder followed by circumscribed fleabite-like eruptions on scratching the parts.

Itching of the different parts of the body, considerably aggravated by

exposure to the cold north wind.

Forehead, chest, back, intercostal regions, arms, nates and thighs were covered with fleabite-like eruption on scratching those parts. (J).

Sleep.—Sleep disturbed by dreams.

In the morning dull heavy eyes with inclination to lie down.

In the afternoon dulness with frequent yawning.

Sense of sleepiness but no sleep (from fullness of abdomen).

Sleepy after breakfast, but the eyes could not be shut on account of an oppressive frontal headache.

Fitful and unrefreshing sleep in consequence of dull and heavy headache, preceded by catarrhal symptoms.

Languor on awaking after sleep in the morning.

Heavy eyes on awaking in the morning.

Sleepy after breakfast at 9-30 A.M., with disinclination to do anything.

On waking after sleep at midnight felt thirsty.

Irresistible sleep at an earlier hour (9-25 P.M.). (G).

Sleep at night disturbed by a dream about hiding myself and fleeing from place to place from the pursuit of a wolf.

Sleep disturbed by dreams of repeatedly failing in examination and in attempts at addressing a large gathering.

Dreamed of being in a ferry boat in a large river and being helplessly tossed about by the waves in stormy weather.

Dreamed of a large serpent in a pool of water.

Sleep broken by a fit of cough at 1 A.M.

On awaking in the morning felt drowsy and heavy and weary in limbs.

Dreamed of being robbed and beaten by a number of highwaymen in a lonely field.

Unrefreshing sleep.

Sleep disturbed by dreams as if lying helplessly on a roadside and there being pierced in the left eye and teeth by the bayonet of a soldier.

Lascivious dreams with nocturnal emissions. (J).

Generalities.—Feeling of lassitude and weariness, with diminished appetite and nausea.

Great weariness towards evening with burning in eyes.

Languor in the morning on awaking.

Great lassitude and dullness and yawning several times.

Quite out of sorts, with heavy eyes.

Occasional yawnings.

Lassitude, dullness, and yawning several times towards evening.

Depression on waking from sleep.

Inclination to sit quietly and lie down at 7 o'clock in the morning.

Feeling of exhaustion and disinclination to work.

Languid feeling with sensation of heaviness in the frontal region of the head.

Tired feeling and weariness of the limbs soon after walking a little, with desire to lie down and remain quiet.

Bed clothes and pillows wet with perspiration from my body and head.

On getting up in the morning felt drowsy and heavy with unpleasant weariness of the limbs.

EDITOR'S NOTES.

Cantharis—A Verification.

One afternoon in May I was engaged in preparing some catgut ligatures, when a jar of boiling alcohol exploded, the liquid at once igniting and burning quite seriously my right hand and wrist. The pain was something intense; the injured parts were at once covered with oil and bandages, but these applications gave me no relief. Cantharis readily came to mind. The third dilution was put in water and applied to the parts. The relief was so prompt and complete that no reasonable person could doubt the remarkable efficacy of the remedy. Within five minutes my pain was gone entirely and it never returned. From the severity of the burn I had firmly expected a crop of ugly blisters. Within six hours not a trace of discoloration was visible.—HOWARD CRUTCHER, M.D. *The Hahnemannian Advocate*, Aug 15, 1896.

The Temperature Relations in Apoplexy.

Dr. Dana writes on this subject in the *Post Graduate*, and states that in cases of cerebral hæmorrhage accompanied by hemiplegia the temperature of the paralysed side is higher than that of the sound side and that in acute cerebral softening from thrombosis or embolism this difference in temperature is not present. This the author says will be found a valuable means of distinguishing between the two conditions, and he quotes in this article four cases all proved by necropsy. The difference in temperature between the two sides in these cases was usually from half to one degree. Dr. Dana acknowledges that there are no doubt many exceptions to this rule as there are to most others but they are rare, and are to be explained either on the ground that the hæmorrhage is very small or the acute softening is very extensive. It is possible, too, that certain peculiar localisations of hæmorrhages and softenings modify the symptom, but for the enormous majority of cases the fact holds good. No perceptible disturbance of temperature was ever found in hemiplegia due to embolism, no matter how pronounced and severe the central disturbance was. On the other hand in thrombosis, especially when occurring in old people with badly diseased arteries and a tendency to extension of the softening, there is rather more apt to be a disturbance of temperature whether the trouble be hæmorrhagic or thrombotic, but the tendency is much greater with the hæmorrhage.—*The Lancet*, Sept. 12, 1896.

The Abolition of Quarantine.

Under the title of "Public Health Act, 1896," we have this year done away with the last vestige of quarantine in the United Kingdom. The full title of the act is: An act to make further Provision with respect to Epidemic, Endemic, and Infectious Diseases and to Repeal the Acts relating to Quarantine. The principal section of the Act is the first one, in which power is granted to the Local Government Board to make regulations, just as they have already done for the purposes of cholera, as to the hoisting of signals by vessels having any case of infectious disease on board; as to the questions to be answered

by masters, pilots, and others ; as to the detention of vessels and person infected ; and as to the duties of certain individuals under the regulations. The term "epidemic, endemic, or infectious disease" naturally includes yellow fevers and plague, the only two diseases as to which quarantine was carried out, and since all the quarantine Acts mentioned in a schedule are repealed, the only method of dealing with these two quarantinable diseases will in the future be that which has now been adopted for many years as regards cholera. In Scotland and in Ireland the Local Government Boards of those portions of the kingdom acquire similar powers, and it may be assumed that the regulations made in the three portions of the United Kingdom will be alike in all essential respects. The Act comes into operations on Nov. 7th of this year, and by that time new regulations will doubtless have been issued to give effect to its provisions. It is to be hoped that our colonies, and above all our Crown colonies, will be led before long to act on the same principles as those which have been so successfully carried out in the mother country.—*The Lancet*, Sept. 12, 1896.

Street Nuisances.

The Town Council of Richmond have set an example which the County Council of London might well follow. At a meeting held at the town hall in June, 1896, it passed some by-laws for the prevention of nuisances not already punishable, and among many others is the following admirable rule : "No vendor of newspapers or other articles shall call or shout or ring a bell continuously in any street so as to cause annoyance to any person residing in or occupying any house, shop, warehouse, or office in such street or in any adjoining street." The nuisance of City noises gets worse every day. The noise of traffic whether from ordinary street traffic or trains, is unavoidable, and even we may say necessary. But it is the wholly unnecessary noises we complain of. The yelling of the vendors of newspapers, coals, fruit, flowers, and this that and the other is absolutely indefensible. So also is the blowing of a post-horn for sheer advertisement by the drivers of carts setting forth the virtues of certain nostrums. Besides noises, there are other offences which might be done away with. London might be and is in some ways the finest city in the world, but in no town can the passer-by see so many beautiful sites utterly spoiled for the want of a little care. Take Piccadilly-circus, for example. Some years ago this sight was improved at a vast expense and beautified with a fountain which is a very good example of the metal-worker's art, even if it is very unhappy in its overwhelming environment. This being done, the Londoner naturally expected that the site would be kept in fairly good order. Instead of this, what do we find? The fountain playing with a miserable trickle ; water in the basin mixed with dust, pieces of paper, and orange peel ; the space around the fountain's base occupied by loafers of every description. The parks of London, both those under the Crown and County Council, are beautifully kept and stocked. Surely it is not too much to ask that the street open spaces should be so too. It is for the removal of the unnecessary nuisances that we plead, for freedom from them would do

much for the health, apart from the pleasure, of the community at large.—*The Lancet*, Sept. 19, 1896.

The Practice of Medicine in China.

The work of the Chinese practitioner begins at daybreak, when he receives his office patients. At ten o'clock he is carried in a sedan chair to visit his patients. On the door of his house, the sick one hangs a card bearing the name of his own physician, a necessary precaution, as all the houses are similar and are not numbered. The doctor is received with profound respect. He is offered tea, and a pipe, and then is invited to feel the pulse of the sick one. If it be a man, the doctor seats himself in front of him; if a woman, a bamboo screen is placed between them, which is, however, withdrawn when it is necessary to examine the tongue. The left hand of the patient is extended upon a book, the doctor lays the three first fingers of his right hand upon the pulse, tries it with each finger separately, then with all three he presses firmly upon the artery and counts, without a watch, the number of pulsations. This accomplished, the patient presents his other hand, and the performance is repeated.

After asking questions of the sick one concerning his illness, the doctor calls for pen and paper to write his prescription, the principle ingredients of which are of the vegetable kingdom.

If the patient be a mandarin or person of high rank, the physician writes out the nature of the sickness, the prognosis and the treatment and receives as honorarium about ten francs. But often the family and friends are satisfied with just a verbal communication.

The charges for a visit vary generally according to the pecuniary condition of the patient.

The money paid is wrapped up in a red paper, and when the patient is especially grateful, in a guilt paper.

The doctor does not make a second visit, except in very serious case and if he is requested to do so.

If the recovery does not proceed rapidly, a second physician is called in, then a third, a fourth, a fifth—until the family, tired of seeing doctors, call upon the aid of some divinity endowed with the virtue of healing.

But it is all useless.

Generally speaking, the visit of the first doctor is quite enough to send the patient into the kingdom of Confucius.—*New York Medical Times*, Sept. 1896.

The Digestion of Children.

Dr. Fenwick in his Report on the Pathology of Infantile Marasmus gives the following summary, with regard to the digestion of children:

1. The quantity of hydrochloric acid secreted during the course of digestion varies in the same child from day to day and from meal to meal, even when the food on each occasion is identical both in quantity and quality.

2. In healthy children at the breast the milk is found to be curdled after a residence of eight to fifteen minutes in the stomach, a result

which depends upon the presence of rennet ferment in the gastric secretion.

3. The acidity of the gastric contents steadily increases during the progress of digestion, and finally attains its maximum within an hour and a-half from the commencement of the meal.

4. The average total acidity calculated as hydrochloric acid at the end of the first fifteen minutes is about 0.072 per cent. ; and at the end of one hour and a-half about 0.135 per cent. It is to be noted that the usual method of filtration lessens the acidity of the gastric contents very considerably, the difference between the filtrate and the crude material often amounting to as much as 0.06 per cent.

5. Free hydrochloric acid can never be detected in the contents of the stomach until after the lapse of eighty minutes from the commencement of the meal ; but it can often be found between this time and the termination of the process of digestion.

6. Pepsine and rennet are invariably present as long as the secretion contains a trace of the mineral acid.

7. Lactic and other secondary acids do not occur as normal product of digestion, and their appearance must therefore be regarded as evidence of fermentation.

8. In children who are fed upon cow's milk the total acidity is much greater than in the case of breast-fed infants (0.18 per cent., 0.195 per cent.).

9. Free hydrochloric acid can almost always be detected towards the latter end of digestion. In a large proportion of cases small quantities of lactic acid are also present.

10. In infants who are fed upon farinaceous foods the total acidity of the gastric contents is invariably diminished, and may not exceed half the normal. In many cases where a trial meal was composed of oatmeal gruel the contents of the organ extracted at the end of an hour were found to be neutral or only faintly acid to litmus paper.

11. In breast-fed infants the process of gastric digestion is usually completed and the stomach void of food at the end of an hour and a-half. In infants fed upon cow's milk from two to two hours and a-quarter usually elapse before the organ is empty.—*The Brit. Med. Journal*, Sept. 26, 1896.

An Obsolescent variety of Cretinism.

Cretinism is produced by lack of thyroid function in youth, and varies in proportion to the lack of function and to the degree of youth at which the lack occurs. One variety is embryological, due to thyroid non-development or partial development, and is analogous to any other malformation by deficiency, such as acardia, acephalism, anencephalism, absence or arrested development of testicle, ovaries, uterus, or any other organ.

A second variety is due to atrophy of the thyroid parenchyma, occurring occasionally after a serious illness in childhood, and analogous to the atrophy of the testicles after mumps.

A third variety is due to goitrous degeneration of the thyroid body. This third variety seems to be fast vanishing from this country,

judging from its extreme rarity amongst the many scores of cases brought before the British Medical Association at its recent annual meeting. Nor is this to be wondered at, seeing that goitrous cretinism is most likely to occur in the worst breeding grounds of goitre (namely in valleys where the right conditions for goitre happened to exist) and which are sufficiently secluded and benighted to induce frequent intermarriage among goitrous families. Improved sanitation and the opening up of secluded valleys will exterminate this variety of cretinism.

Half a century has not yet elapsed since Dr. Hugh Norris described the endemic cretins of the little Somersetshire village of Chiselborough lying in a small valley hemmed in on all sides but the west by hills over 400 feet high, its temperature mild, its lower part damp and dirty, and its immediate neighbourhood densely wooded with orchards. In this small village of 540 inhabitants he found: (a) 4 goitrous idiots, 2 of either sex; (b) 16 goitrous imbeciles, 4 male and 12 female all unable to articulate intelligibly, all with very bad memories, and all except one unable to earn a living; (c) 5 goitrous deaf-mutes, all females; (d) 200 or 300 goitrous villagers, with low intelligence and defective speech, the most goitrous being also epileptic.

The above creatures were stunted and thick-set, with large head, abundant coarse hair, low forehead, small sunken eyes, broad face with flat nose, large mouth with thick lips, and rickety limbs, the expression laughing or pained or vacant, the gait waddling. They were mostly weak, mild and harmless, and, if mischievous, only so from irresponsible ignorance.

The females greatly predominated, as in goitre. There was imperfect sexual development, though some of the worst cases bore children. The semi-imbeciles transmitted their imbecility to some, not all, of their children. The cretins prevailed mostly in the lowest and poorest parts of the village, but were not absent from the highest and most airy parts, or even from the families of well-to-do farmers. Several green, stagnant pools existed in the place; the air was necessarily stagnant, and often reeking with rotten vegetation; young strangers became goitrous on settling there; intermarriage was unusually common, and many similar cases existed in an adjoining parish.

Dr. Hugh Norris, who still lives in the same neighbourhood, tells me that one solitary cretin now survives of about 50 years of age, the march of civilisation having apparently stamped out the disease.—*The British Medical Journal*, Aug. 29, 1896.

The Bacteriology of Infantile Diarrhoea.

It is the bacteriology of the small intestine which has the greatest practical importance in health and disease; and its study likewise presents the greatest difficulty, inasmuch as this portion of the gut is cut off from direct observation during life.

In the large intestine putrefactive decompositions take the upper hand, and the living factors at work in the small intestine become therefore obscured and difficult to identify. The variety of forms present in the dejecta renders the determination of the presence of specific microbes a task of peculiar difficulty, especially where we have

to deal with a morbid condition in which diarrhoea and more or less marked constitutional symptoms are the main features.

These facts help to explain the absence of positive data regarding the etiology of infantile diarrhoea, though every thing points to a bacterial origin of this complaint. There are three factors to be considered :

1. The bacteria present in health and in the course of the disease.
2. The easily-decomposed food—milk.
3. The susceptible organism of the child, predisposing to such complaints.

Escherich found that in the milk-feces two organisms predominated, viz., the bacterium coli commune and the bacterium lactis aerogenes. They especially attack the milk sugar, and the chief products of their action are acetic and lactic acid, and $2CO$ and H . gas. The process is a fermentative and not a putrefactive one. The results agree with what we know of the action of bacteria in the adult's small intestine. The investigations of Macfadyen, Nencki, and Sieber show that the bacteria of the small intestine primarily decompose carbo-hydrates, with the result that the contents of the small intestine have an acid reaction. This acidity will be a main factor in preventing the development of a putrefactive decomposition under normal conditions.

Escherich did not find in cases of infantile diarrhoea any organisms that might be called specific. He supposes that in the upper intestine a main factor in the causation of diarrhoea is abnormal acid formation by bacteria, and that in the lower intestine the decomposition is of proteid matter.

The action of the bacteria does not take place through a direct invasion of the organism, but through the absorption of poisons formed by them. It is probably through their action on the milk and not on the body that the bacteria acquire their dangerous properties. In the child toxic effects may result from substances that produce little or no effect on the adult.

Baginsky examined 43 cases of summer diarrhoea, but did not find any organisms of a specific character. The general conclusion he comes to is that several kinds of saprophytic bacteria may produce the disease under favourable conditions. The severe cases of diarrhoea seem to be due to poisons developed by bacteria from the proteid constituents of the food. Booker isolated altogether 33 forms of bacteria from cases of infantile diarrhoea. There was great variety, but no constancy in the types found.

Jeffries and Baginsky were not able to confirm Lesage's statement that the green diarrhoea of children is associated with the presence of a specific organism. The determining factor is the milk and the decomposition products arising from it. The researches of Vaughan in this connection are of first-rate importance, and deserve careful consideration and confirmation. Vaughan has isolated from poisonous milk a crystalline body, called by him tyrotoxinon. The symptoms of tyrotoxinon poisoning resemble those of cholera infantum. Vaughan also obtained toxic bodies from cultures of Booker's bacteria, which produced vomiting, purging, and sometimes death in dogs. This author believes that there are many bacteria which may produce

diarrhœa in children by an action on the milk inside or outside the body.

There can be little doubt that in hot weather the milk undergoes a profounder decomposition than the ordinary lactic acid fermentation by which its proteid constituents are attacked. These changes are due to bacteria, and may occur without visible alteration in the appearance of the milk. The milk, therefore, furnishes a more fruitful field for investigation than the intestine. If the living agents at work in the milk were accurately known, we would be in a position to determine the best methods for their extinction, and in such diseases it is their prevention that should be the main object of our investigation. Flugge emphasises the fact that milk sterilised by the usual methods is not without danger. A number of resistant forms are not destroyed and they were found to produce a profuse and sometimes fatal diarrhœa in young dogs.

Though our knowledge is imperfect regarding the specific agents at work, everything points to this disease being due to changes produced by bacteria in the milk. It remains for future research to determine more accurately the nature of the toxic products, and of the bacteria that produce them.—*The British Medical Journal*, Sept. 12, 1896.

The Significance of Granulation Tissue in infection with Pathogenetic Micro-organisms.

Upon the basis of numerous researches with anthrax bacilli and vibrio Metchnikoff, the author, draws the following conclusions :

1. General infection of the animal body by pathogenic bacteria does not occur through the uninjured granulation tissue, and animals infected in such manner remain alive. Bacteria brought in contact with granulation tissue do not enter the internal organs, but remain at the point of inoculation ; i.e., in the granulation tissue, which in this way serves as a protection against the further distribution of the bacteria in the organism.

2. Animals which remain alive after infection through the granulation tissue are rendered insusceptible to a repeated infection with virulent cultures by the route of fresh wounds. In this manner infection of the animal through the granulation tissue produces within its organism immunity to a repeated infection with the same bacteria.

3. Pure cultures of the previously fully virulent bacteria used for inoculation, obtained from the infected granulation tissue, were, in most cases, found after a certain time (4, 8, 12 hours) to be more or less attenuated. Susceptible animals (as mice, rabbits), infected with pure cultures of such bacteria, either remain alive or they die after the expiration of a longer period than the control animals which were infected through fresh wounds. When the cultures developed from the granulation tissue are decidedly weakened, and susceptible animals remain alive after infection with such bacteria ; a second infection of these animals with virulent cultures is sometimes negative. Such animals prove to be immune.

4. Upon the basis of examinations of the juice (fixed cover-glass preparations of the fresh juice) of the infected granulation tissue and

that of fresh wounds in control animals, which were undertaken at variable periods of time after infection, and upon the basis of microscopical examination of sections of such a granulation tissue, the following conclusions may be drawn :

First of all, under the influence of the juice of the granulation tissue degeneration and destruction of the bacteria occur. This is later followed by the processes of phagocytosis, which have been observed in greater or lesser degree in all cases, but which, however, are not of such great significance in the destruction of the bacteria as METCHNIKOFF has ascribed to them. If, for example, an intensely pronounced phagocytosis is observed in animals which are but slightly or not at all susceptible, but liable to infection with certain pathogenetic bacteria it will be noted that parallel with this phenomenon a rapid degeneration of the bacteria external to the leucocytes takes place, which occurs earlier in the granulation tissue than does the phagocytosis. Microscopical examination of the secretion which is generally discharged in large amount from the infected fresh wounds of control dogs, serves as an important proof that phagocytosis is a phenomenon which is constantly repeated. During the first three or four hours after infection almost no leucocytes occur in this secretion, while a progressive degeneration and destruction of the bacteria are observed. The appearance of leucocytes in the secretion and the distinct development of phagocytosis, are generally seen only after the elapse of three to four hours after infection.

A very great alteration of the morphological character of the bacteria (anthrax and vibrio Metchnikoff) is observed on examination of the section as well as of the secretion of the granulation tissue after expiration of a certain time after infection, and this is observed in those bacteria lying within as well as exterior to the leucocytes.

These alterations indicating degeneration of the bacteria are of a very variable nature. The ordinary, original phenomenon of degeneration of the bacteria finds its expression in the appearance of bright unstained spaces within the bacteria bodies. Thereby it is seen that the bacteria cells are not uniformly stained. Many portions of these cells, or whole cells, and even whole threads (anthrax), appear scarcely tinged and with scarcely recognizable contour. In a high degree of degeneration, instead of assuming their usual rod-shaped form, the bacteria (anthrax) appear like a collection of bright granules which do not stain. The same bright granules are met with in those bacteria which lie inside as well as in those which lie outside of the leucocytes. A phenomenon very often observed during the bacterial degeneration is the swelling of the bacteria cells (anthrax bacilli), which assume the shape of verminous, swollen, bent, non-uniformly stained bodies with swollen enveloping substance. These degeneration forms are chiefly observed in the bacteria lying outside the leucocytes, and after the elapse of a longer or shorter period after infection of the granulation tissue. Loss of the property of the bacteria to stain with the basic aniline dyes (methylene blue) appears to be a frequently observed mode of degeneration; on the contrary, the affinity for acid aniline dyes (eosin) is quite pronounced. Such bacteria

in preparations appear more or less intensely stained with eosin. This property of the degenerated bacteria to take on eosin stain is observed in bacteria within as well as exterior to the cells.—NICOLAS AFANASSIEF. (*American Medico-Surgical Bulletin*, Sep. 26, 1896.).

The Hygiene of Bicycle Riding.

Bicycling has become quite a rage in the present day. The fashion has been adopted by the gentler sex who should have never taken to it. The contagion has not yet spread amongst our countrymen, but is likely to do so. We therefore trust the following extracts from Dr. J. Arthur Clement's paper read before the Maryland Homœopathic Medical Society will be useful reading:—

There are three things that the animal, man, requires and does not always get—amusement, exercise of the proper kind and plenty of fresh, pure air, and the bicycle will provide these. There are three things that we do *not* require but often get—cardiac lesions, pelvic inflammation and enlarged prostates, and the bicycle will also provide these.

The ordinary saddle is certainly injurious as the whole weight of the body is thrown on the soft tissues of the floor of the pelvis instead of upon the ischial tuberosities as happens when we sit upon a proper support. Then too, the horn of the saddle is pressed against the sensitive tissues within the pubic arch and the constant pressure and vibration certainly will be followed by bad results. Even in the days of Herodotus it was known that excessive horseback exercise would cause impotence, and wonderful to relate there has been very little change made in the contour of the saddle, even to the present day. One exception to this, however, is in the regular army saddle which has a depression to relieve the pressure upon the prostate gland. —

The bad results from the saddle, in the male, are inflammation of the prostate gland, urethra and bladder, and impotence; in the female, sexual excitation, pelvic inflammation, cystitis, urethritis and vulvitis. It is useless for exponents of the wheel to turn their heads away with a glance of pity at our ignorant and old fogy ideas, for such troubles have been and are being produced every day by our twentieth century steed, *but* these troubles may be avoided if we choose to use a little common sense.

The proper saddle is one which throws the weight of the body on the ischial tuberosities and the gluteal muscles; a centre concave instead of convex, which will remove the danger of prostatitis; springy enough to reduce the jar and vibration to a minimum and yet form a firm foundation, and shaped so that the body may maintain a correct position.

The position assumed by a large number of the riding public is painful to contemplate, both from an æsthetic and a hygienic point of view. The inelegant but expressive comparison of "a dog lapping a pot," seems to give us a perfect picture of what many assume to be the only position they can take when a wheel.

In these days of education even the laity should know better than to adopt such a position, but while painful to think of it is nevertheless

true that the "bicycle hump" is seen throughout the land. Spinal disorders and deformities, narrowed chests and diminished lung power and impeded heart action, are the heritage of this bowed up condition of the "scorcher." None of us have such a breadth of chest or lung capacity that we can afford to sacrifice even the smallest possible amount of such development, and if our riding patient claims that he cannot ride in any other position, advise him to trade his wheel for a stout pair of shoes and an oaken staff and to spend his spare hours in walking.

The handle bars and saddle should be so arranged that in riding the body is in an erect position and chest thrown out. Then the wheel will work a wondrous change in our patient who sits all day bending over his work. His chest will broaden, his carriage will become more erect, he will breathe better and stronger, undergo fatigue better and in a short while his waistcoat buttons will have to be removed nearer the edge of the garment. In fact the bicycle closely resembles some of our drugs. It is a boon to humanity when used properly but a source of evil when mis-applied.

The habit of "scorching" or making spurts of speed is entirely wrong and must not be indulged in. The race we will always have with us but for our patient we must prohibit such actions. As a sequence of scorching, cardiac hypertrophy, with or without dilatation, is pretty certain to occur, and of fourteen (14) professional cyclists recently examined all had hypertrophy without dilatation.

Dr. B. W. Richardson, who has made a special study of the relation of cycling to heart diseases, says, "the ultimate action of severe cycling is to increase the size of the heart, to render it irritable and hyper-sensitive to motion." He also claims that the over development of the heart under the continued and extreme over-action affects in time the arterial resistance, modifies the natural blood-pressure and favors degenerative structural changes in the organs of the body generally.

Whether starting out for a long or a short trip, the rider should never mount his wheel immediately after indulging in a hearty meal, nor should he ride for a long time on an empty stomach. As in everything else, there is a happy medium to be observed and its observance will not detract anything from the pleasure of riding.

Riding against a strong wind or under a blazing sun is to be avoided and at all times the rider should keep his mouth tightly closed, breathing through the nostrils as Nature intended us to do. How often when riding through the country, our rider, bathed in perspiration from his exertions, sits down to cool off beside a nice damp little brook. Then when he is bound down with the chains of inflammatory rheumatism, he coolly asks us if the disease isn't hereditary as he remembers that his mother had a similar attack at one time. But then I suppose if it wasn't for people's folly many of us would have to cease practicing the healing art or starve.

All acute diseases demand rest and some chronic troubles are aggravated by riding, as in advanced phthisis, bladder and prostatic troubles, arterial sclerosis, emphysema, extensive valvular disease,

asthma, affections of the abdomen and pelvis, obesity, epilepsy, and chronic affections of the joints and muscles. Women should not ride during the menstrual period or pregnancy.

The moral side of the bicycle question has been handled until it is thread-bare. The cry has been that in the female the saddle presses upon the sensitive part of the genital organs and must be a sexual excitement. A proper saddle removes this danger.

The exercise of bicycle riding is a good one if indulged in with prudence and common sense and a due regard to the simple laws of health. The same amount of exercise could, it is true, be obtained in a gymnasium, but the change of scene and fresh air is lacking.

In concluding the subject a few words from the pen of Dr. Conan Doyle may not be amiss: "When the spirits are low, when the day appears dark, when work becomes monotonous, when hope seems hardly worth having, just mount a bicycle and go out for a good spin down the road, without thought of anything but the ride you are taking. I have myself ridden the bicycle most during my practice as a physician and during my work in letters. In the morning or the afternoon, before or after work, as the mood overtakes me, I mount the wheel and am off for a spin of a few miles up or down the road from my country place. I can only speak words of praise for the bicycle, for I believe that its use is commonly beneficial and not at all detrimental to health, except in the matter of beginners who overdo it."—*Southern Journal of Homœopathy*, August, 1896.

The Treatment of Snake-bite by Anti-Venomous Serum.

The following is the abstract of a lecture delivered in the Laboratories of the Conjoint Board of Physicians and Surgeons, London, on July 27th, 1896.

For some time past I have devoted considerable attention to the production of an anti-venomous serum, and after many experiments I succeeded some time ago in placing in the hands of medical men in India and Australia a serum the value of which has now been proved in a small number of cases in which the snake which has bitten the patient has been identified and captured. Many of my observations have been confirmed, some in this country by Professor Fraser and others by observers in British colonies, but the importance of the serum method of treatment has even now not been fully realised. I have to-day, however, the opportunity of giving you the results of experiments that have been performed under Dr. Woodhead's licence, but under my direct personal supervision, so that they may be relied upon as affording direct proof of the value of my method. Those animals that have been successfully treated you may examine for yourselves; others that have been poisoned with the snake venom, but have not received the serum, have succumbed; these latter serve as control experiments with which to compare the results obtained when the serum has been given.

These experiments are easily carried out and are absolutely painless; in rabbits, as in the human subject, the first symptom indicating the action of snake poison is slight somnolence, which, becoming more and

more marked, is gradually succeeded by a condition of unconsciousness associated with, first, muscular contraction and then with loss of motor power, which commencing in the hind limbs passes forwards until the respiratory centres are affected, the cardiac centre being the last attacked; when the animal dies the heart is found in a condition of diastole. The venom may be injected in two ways—intravenously, when a comparatively small dose acts with great rapidity; and subcutaneously, when the dose also acts powerfully but more slowly. A lethal dose of cobra poison injected subcutaneously is about 1 milligramme of dried substance, which proves lethal in about twelve hours. Twice this quantity injected into the veins kills a rabbit of about 1500 grammes in sixteen minutes. Five times as much introduced subcutaneously proves fatal in about three and a half hours. I may, however, give you the results of experiments devised to bring out the exact action of the antivenomous serum, which experiments have been followed by those who are working in these laboratories.

Protective injections.—At nine o'clock this morning four rabbits weighing between 1450 and 1770 grammes were injected intravenously in the lateral aural vein, each with 3 c. c. of the anti-venomous serum. This afternoon these rabbits have been injected intravenously with 2 milligrammes of dissolved dried venom sufficient to kill the animal in sixteen or seventeen minutes. None of these animals show any symptom of sleepiness, and it is evident that the venom will have little if any effect upon them. At the time that these animals were injected with the two lethal doses two control rabbits weighing 1340 and 1275 grammes respectively were similarly injected intravenously with 2 milligrammes of the venom; these both succumbed with the symptoms above-mentioned, one in about sixteen minutes and the other in seven-~~ten~~ minutes. We have here then ample evidence of the great protective power that the serum exerts when injected into the body before the venom is introduced. In a second series of experiments carried out to demonstrate the curative properties of this serum six rabbits were similarly treated with 5 milligrammes of venom injected under the skin. Half an hour afterwards two of these animals received 3 c. c. of the serum intravenously; neither of them showed any symptoms of poisoning and remained perfectly well. Two others of these poisoned animals one hour after the venom had been introduced were similarly injected intravenously with 3 c. c. of the serum; they also remained well. Two of the other rabbits should have been left for one and a half hours, but the dose of poison was so large that one of the animals succumbed at the end of an hour and twenty minutes; the other animal was immediately injected with the same dose of serum as above, with the result that it is now well although the dose of venom was so large and had been allowed to act for so long a time, long enough, indeed, to kill the other animal injected at the same time. This is a very striking proof of the efficacy of the serum.

Although the anti-venomous serum does not act directly upon the toxin, but only through the cells, it begins to exert its influence immediately it is introduced into the body. This fact is well brought out by the following experiments. Three c. c. of the serum were

injected into the lateral vein of the left ear of a rabbit weighing 1280 grammes; fifteen minutes later this animal received into the lateral vein of the right ear 2 milligrammes of the venom, sufficient to kill it in less than twenty minutes had it not received the serum. The animal has remained perfectly well and still shows no evidence of poisoning by snake venom. A more striking experiment still is one of which I give a description. A rabbit having received intravenously 2 milligrammes of venom, two minutes later is injected with 5 c. c. of the anti-venomous serum in the vein of the opposite ear. The animal has remained perfectly well. Such an experiment shows that the venom does not destroy the cellular elements at once, and that even when the poison has already found its way to the circulation these cells may be rendered insensible to the action of the poison by means of the action of the serum.

I have the honour to propose that you will adopt the following propositions and bring them in some way before the Government at as early a date as possible:—

1. That there be instituted in London and in each British colony where there are found venomous snakes a sanitary committee to be entrusted with the duty of testing the efficacy of anti-venomous serums offered for sale or sent out to be delivered gratuitously by druggists and others.

2. That no bottle shall be sold or distributed unless bearing the mark of such control.

3. That this control be effected according to the sole, simple, and rapid method which alone presents every guarantee of accuracy.

4. The method proposed is the following: A standard solution of venom will be placed at the disposal of the appointed expert. The toxic unit of this solution will be based on the quantity of ~~venom~~ necessary to kill a rabbit of two kilogrammes in twenty minutes by intravenous inoculation in the marginal vein of the ear, the above quantity corresponding on an average to two milligrammes of cobra venom (weighed dry) and to four milligrammes of rattlesnake venom. An anti-venomous serum to be sufficiently active for therapeutic use must be a preservative in a minimum dose of two cubic centimetres on intravenous injection into a rabbit of two kilogrammes against an intravenous injection of the toxic unit of venom. The preventive inoculation must be made fifteen minutes only before the inoculation of the venom. The testing of the serum is thus effected in less than one half-hour.

5. That stations provided with serum and all the necessary apparatus for its application be established in the principal centres of agriculture and in the mining and forest districts of the colonies infested with venomous snakes, such as Australia, Burmah, and India, so that every person bitten may be able to come at once and receive treatment.—
A. CALMETTE, M.D. (*The Lancet*, August 15, 1896.)

Therapeutic Notes.

The following therapeutic notes from the North American Journal of Homœopathy for September will, we doubt not, prove exceedingly interesting to our readers:—

Anacardium 200—Mrs. S., æt. 38, married fifteen years, three children, all living. Now in the fifth month of her fourth pregnancy. Complains of *spells of sleeplessness lasting for several nights*. No other symptoms, nor are there any conditions to cause this trouble. Guided by the symptom "the attacks ceased for one or two days and then continue again for a couple of days," I prescribed *Anacardium* 200, one dose, dry on tongue, when retiring. No other prescription was needed, as her sleep was normal throughout the remainder of her pregnancy. This makes the third verification of the application of this symptom of *Anacardium*.—DR. MARVIN CUTIS.

Helonias for "*Conscious of the womb*."—Mrs. L., æt. 28; married, two children, both living. Has prolapsus uteri, and ulceration of the cervix with an offensive leucorrhœa. The system of the patient is extremely worn out, her very expression is that of one in great distress. She is very irritable, finds fault with every one, and cannot bear to be contradicted. She is restless, desires to move round, as she feels better when body and mind are employed. With these mental symptoms there was severe backache, leucorrhœa, dark in color, and offensive, a sore and heavy feeling in the womb, in fact, as she said she was always "*Conscious of her womb*." Examination showed a prolapsed uterus, in second stage, and ulceration of the cervix. As this woman had been the rounds of local treatment, including the electrical, and as I had a desire to test "*the consciousness of a womb*," I prescribed *Helonias dioica* 30, a dose every 3 hours for two days, then a dose each night when retiring, and to use an injection of warm water night and morning. At the end of three weeks, the leucorrhœa had almost ceased, the womb was in the first position, there was no soreness in the womb, and she "*forgets that she has such an organ*." She now passed *abour* my observation, as she returned to her home in Oregon. Would the continuance of the remedy have corrected permanently the prolapsed organ?—*Ibid.*

Nitric Acid 3 in *Morbid Sweet of the Body*.—Mr. S. W. has been troubled for past 5 years with a foul smelling sweat of the body. The odor was so disagreeable that he avoided public meetings of all kinds. He was of a very dark complexion, black hair and eyes. Face covered with pimples and comedones. All discharges from body—stool, perspiration and urine, were *extremely offensive*. He presented to my mind a perfect type or pen picture of a nitric acid patient. The remedy was given 10 gts. of 3x dil. in four ounces of water, a teaspoonful four times a day. The prescription produced relief and cure. In this case no external applications were used whatever.—DR. GEO. F. DUNHAM.

Petroleum 6 in *Pruritis Ani*.—Man, æt. 50; clerk. Suffered for eighteen months; no discoverable cause: good health otherwise. *Pathological Symptoms*: Itching of anus. Scabs on margin of anus. Irritability of temper. *Clinical Symptoms*: Itching was decidedly worse at night in bed. Nervous system had begun to be affected, shown by impatience. Vaseline externally. *Remarks*: My attention was called to petroleum by the fact that vaseline relieved. Had tried all sorts of external applications from allopathic hands and many homœopathic from my own without result.—DR. W. A. DEWEY.

Psorinum 200 in *Eczema Capitis*.—Two sisters, ages 10 and 12. Of several months standing. *Pathogenetic Symptoms*: Scabby cheeks and ears. Burning; itching. *Clinical Symptoms*: Hair matted together; dry lustreless hair. Pustules and boils on scalp emitting an offensive odor; the eruption was moist and fœtid. Patients averse to having head uncovered when head was covered. *Remarks*: Dose at night for three nights. Improvement commenced at once and both cases progressed to cure, though previously they had suffered many medicines of many doctors.—*Ibid*.

Selenium 30 in *Headache*.—Lady, æt. 40; single; school teacher. Suffered for several years. Was an inordinate user of tea. Otherwise healthy. *Pathogenetic Symptoms*: Headache, periodical, caused by tea. *Clinical Symptoms*: Headache over left eye. Much depressed by strong odors and light. *Remarks*: Improved at once, attacks less often and in three months was well. Tea only once a day instead of three times.—*Ibid*.

Antimonium Crudum 200x in *Verruca*.—Mr. E. O., æt. 17, single, student. Twenty-three on right hand and thirty-four on left, mainly on backs and fingers, but a few on interior surface of fingers. *Pathogenetic Symptoms*: Redness and inflammation of eyelids. *Clinical Symptoms*: Warts; horny excrecences. *Remarks*: Complete cure in seven weeks.—DR. EMANUEL M. BARUCH.

Arnica in *Typhoid Fever*.—Girl æt. 12. Was called in consultation to see patient, who had been ailing for a fortnight with constant headaches, increasing weakness and temperature fluctuating between 101° and 103°. Progressing weakness, pulse more and more feeble. Hacking cough. Increasing drowsiness, which, at the time I saw her, had advanced to a semi-comatose condition, but her intellect was clear at intervals. No marked abdominal symptoms, but involuntary passage of stools and urine, and, the day of consultation, she had hæmorrhage of the bowels and epistaxis. Two roseola spots appeared on the left side of the abdomen. Palpitating over the ileo-cæcal region would cause faintness. No enlargement of spleen or tympanites, nor were the stools characteristically typhoid. She had had various routine typhoid remedies, without avail; constantly growing worse. *Pathogenetic Symptoms*: Weakness, with sluggishness and sleepiness. Indifference to every thing. Headache over eyes, extending toward temples, with sensation of tightness. Bleeding from nose. Face pale sunken. Lower jaw dropping. Involuntary stools. Pulse feeble, rapid and thready. *Clinical Symptoms*: Hamorrhage from bowels in typhoid, dark, venous blood. *Remarks*: After A. M. 6th, a teaspoonful every two hours, no more hæmorrhage, involuntary discharges gradually ceased, slept more naturally and became brighter. Recovery rapid.—DR. M. DESCHERE.

Campbor 3 in *Shock*.—Mrs. A., æt. 52. Hysterectomy performed for removal of fibroid in uterus and extensive adhesions. *Pathogenetic Symptoms*: Cold sweat on forehead. Spasmodic motions of head. Nose cold. Face very cold. Whole body cold and clammy. Pulse not perceptible. Skin of fingers shriveled. *Clinical Symptoms*: Disturbed, roving glances. Upper lip everted slightly. Cold breath.

Heart sounds imperceptible even three hours after the operation. Urine contained albumen.—DR. W. G. FRALICK.*

Carbolic Acid 30 in Uterine Displacements.—Has proved serviceable in several cases with or without co-existing catarrh of the vagina and the endometrium of the cervix or body. The catarrhal discharge, if present, is always offensive. The symptoms first relieved are the agonizing backache across the loins with a dragging sensation down the buttocks and into the thighs. The improvement of the local symptoms, except the displacement, followed gradually but surely. *Pathogenetic Symptoms*: Soreness and weakness of muscles of back and limbs. Pain in loins on straightening one's self and by jolting while riding. Sore and bruised feeling in loins and abdomen. Leadен heaviness in lower extremities with dragging sensation. Prostration from short walk. *Clinical Symptom*: Offensive discharges. *Remarks*: I am in the habit of giving one dose of the 30th twice daily until improvement sets in, which is generally the case after three or four doses. Then one daily and after that once or twice a week until cured or another remedy is indicated.—DR. M. DESCHERE.

Oxalic Acid 30 in Gastralgia.—Mr. A. L. æt. 35. Commercial traveller. Has suffered from pains in stomach since June, 1895, at intervals of a week, increasing in frequency. Last two months every other night. Several old school physicians gave palliatives but condition increased. *Pathogenetic Symptoms*: Gripping and twisting pain in epigastrium, on pressure. Vomiting of food with great exhaustion. Tongue coated thickly, whitish yellow. Sour taste. *Clinical Symptoms*: Attacks come on after midnight, every other night; waking him from sleep. The pains are agonising, forcing him to bend double from which he has to desist quickly, however, on account of the great sensitiveness of the stomach to pressure during the pain. Between the attacks the patient has good appetite but feels weak. Attacks last from one to six hours, from midnight till morning. *Remarks*: On Jan. 10th. I prescribed Oxalic acid, 30th, one dose every morning. He has had no attack since and is now perfectly well. Remedy discontinued after ten days.—DR. M. DESCHERE.

* Strangely enough Dr. Fralick says nothing as to what the result of the administration of *Camphor 3* in this case was. Are we to infer that the case recovered?—EDROFF, Cal. J. Med.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

137. KALMIA.

Constipation :

1. C. so obstinate, that proving was discontinued for thirteen days, during which it subsided.
2. Attempt to st. was unsuccessful, st. too large to pass, in morning ; passed with great difficulty at 10 a. m.
3. St. very hard and large, it was voided with difficulty ; after st. excessive burning in anus.

Diarrhœa :

1. Soft st. early in morning, followed by D.
2. Soft st., and evacuation of wind, forenoon.
3. Easy soft st. followed by pressing in rectum.
4. After breakfast cutting pain in bowels, followed by loose st., which relieved pain.
5. No. st. the first day ; scanty st. in morning (3rd day) ; looseness of bowels at noon after morning st. (3rd day).

Dysentery :

1. Pain in bowels which drove to st., st. passed with tenesmus.

Aggravation :

1. Morning. 2. Forenoon. 3. After breakfast.

Amelioration :

1. Pain in bowels after st.

Before St :

1. Cutting in bowels.

During St :

1. Hard st. difficult to pass. 2. Evacuation of wind.
3. Tenesmus. 4. Cutting colic.

After St :

1. Excessive burning in anus. 2. Pressing in rectum.
3. Nausea. 4. Relief of pain in bowels.

Rectum and Anus :

1. St. normal but followed by burning in anus.
2. Excessive burning in anus after hard st.
3. St. morning, very hard and large, voided with difficulty, after st. excessive burning in anus.
4. Inclination to go to st., in the forenoon.

General symptoms :

1. Anxiety, apprehending something dreadful would happen. Irritable disposition towards evening continuing till morning. Cannot study ; restless, want to leave office ; don't know where to go. Vertigo with nausea and pains in limbs. Vertigo so excessive that antidotes were necessary. Headache with vertigo ; with flushed face ; with nausea.
2. Pain in eyes which makes painful to turn them. Sensation of stiffness in muscles around eyes and of eyelids. Vision much affected, especially in darkness. Dimness of sight, worse after paroxysms of vomiting. Cloudiness before eyes, so that he could not read without spectacles. Almost complete blind-

ness in erect position. Entire loss of sight. Glimmering before eyes exactly in point of vision, impossible to distinguish words while reading ; it seems as if small points were continually moving before eyes.

3. Severe stitches in ears at 4 p.m. followed by pain in arms.
4. Fluent coryza, with frequent sneezing, and increased sense of smell.
5. Paleness of face. Flushed face, with headache. Sticking and tearing in bones of face. Lip swollen, dry and stiff, in morning. Neuralgia in face.
6. Tongue white and dry. Toothache, as if nerve were laid bare ; neuralgic pain in upper molar and bicuspid teeth of left side. Stinging in jaw bones.
7. Inflammation of sublingual glands. Tingling in salivary glands, immediately after eating, attended with sensation of fermentation in œsophagus and copious salivation. Pain in region of submaxillary gland, shooting towards parotid. Acrid bitter taste in mouth. Rawness and scraping in throat, with painful swallowing and throbbing in tonsils. Increased thirst.
8. Nausea excessive, with vertigo ; with flickering before eyes ; with pressure in throat ; with oppression of chest ; with pains in elbows ; with entire loss of sight ; with blackness before eyes ; with incarcerated flatulence. Nausea soon after stool. Continual retching. Vomiting of bile with ruminating action. Warmth in stomach. Pain in epigastrium. Sensation of gradual contraction of stomach, forcing its contents up into œsophagus. Pressure in pit of stomach, relieved by sitting erect, aggravated by sitting bent over ; with feeling as though something were pressed down beneath pit of stomach.
9. Gnawing in epigastric region, a feeling of emptiness in same. Pain in hypochondriac region and about umbilicus. Incarceration of flatulence with nausea. Sensation in bowels of cathartic operation but none followed.
10. Frequent desire to urinate. Urine yellow, and increased in quantity. Urine hot as it passes.
11. Tickling in trachea. Oppressed breathing with palpitation of heart and anxiety. Difficulty of respiration with erysipelatous eruption ; with pain in limbs. Stiches in lower part of chest.
12. Fluttering of heart. Violent palpitations, with faint feeling. Pulse very feeble of forty strokes in a minute. Pulse extremely weak and creeping ; the artery seemed to slowly contract and dilate like the action of earth worm. Irregular pulse aggravated by mental effort and when leaning over to write.
13. Stiffness of neck, greatest at seventh cervical vertebra. Limbs feel as if they had been beaten. Pains in left arm. Pressure in left arm. Pain in left shoulder. Rheumatic pain in shoulder. Pain in lower extremities, legs and feet. Rheumatic pains all over body.

14. Very drowsy, falling asleep at study. Restless sleep; wild, unpleasant dreams, all night.
15. Weariness and muscular prostration so great as to render walking and going upstairs difficult; prover feels that he is struggling under the utmost weight his legs could bear. Sensation of great fatigue in all muscles, especially when exerted,—first felt in those of mastication.

Remarks: KALMIA has not yet found a place in the treatment of disorders of the alimentary canal. Its use has hitherto been confined to rheumatism, rheumatic affections (inflammatory and non-inflammatory) of the heart, and in neuralgia. But it is likely to be a very useful remedy in constipation when it is very obstinate, when the first attempts at stool are generally unsuccessful, and when the stools, which are very hard and large, are passed with great difficulty some hours after with fresh exertion, followed by burning in anus. It may be useful in diarrhœa which follows constipation; also in diarrhœa when the loose stools come on after breakfast and are preceded by cutting pains in the bowels which are relieved after the stools are passed. The selection of the remedy will be the more appropriate when the general symptoms correspond, especially the characteristic nausea and vomiting, muscular fatigue and prostration, the rheumatic and neuralgic pains, and palpitation of the heart with faint feeling and slowness of the pulse.

138. KINO.

Constipation:

1. Evacuations hard, with sensation of turgescence of the mucous lining of the bowels.
2. Hard, dry evacuation, with a small quantity of blood at its termination (4th day); following this for four or five days the bowels were obstinately constipated, the constipation terminating in sickness and diarrhœa, with extreme giddiness and general debility, relieved by Ipecacuanha.

Diarrhœa:

1. Diarrhœa with sickness (nausea) following constipation.

General Symptoms:

1. Headache.
2. Appetite decreased. Nausea.
3. Great amount of flatulence. Colicky pains towards evening, with bearing down of lower bowel, only relieved by lying flat on face. Bearing down, with frequent desire for an evacuation but without any.

Remarks: KINO is a reputed old school remedy for diarrhœa and dysentery for which it is given in large doses. Its primary action is constipation, and it is likely in small doses to be useful in this condition when the stools are hard and dry, followed by discharge of blood from the anus, and there is a sensation of turgescence of the mucous membrane of the intestines. It may be useful also in small doses in diarrhœa which follows constipation and is associated with nausea, giddiness and general debility, much flatulence, colicky pains towards

evening, and the characteristic bearing down of the lower bowel, which is only relieved by lying flat on the face. The drug deserves a proving to draw out the finer shades of its action.

139. KOUSSO. (*Brayera Anthelmintica*).

Diarrhœa :

1. Watery diarrhœa. 2. Sts. loose and dark.
3. Expulsion of lumbrici, of dead tœnia solium, and of bothriocephalus latus.

Rectum and Anus :

1. Prolapsus.

General Symptoms :

1. Cephalalgia. 2. Thirst ; nausea ; vomiting.
3. Increased secretion of urine. Diuresis followed by scanty urine.
4. Miscarriage. 5. Rapid prostration of strength.
6. Slight sensation of heat

Remarks : Koussou, in massive doses, is used with success by the old school for the expulsion of worms, especially of the class cestoda or tapeworms. In such doses it produces the symptoms given above. It has to be seen whether, when these symptoms are present along with the worms, the drug may not be efficacious in minute or infinitesimal doses in removing the symptoms along with the expulsion of the worms in question. The analogy of CINA, which expels worms in both large and attenuated doses, would make it likely that Koussou would do the same. Hence it would be worth while trying it in such doses in diarrhœa which is dependent upon worms, especially the tape worms. It is true that the worms found within the organism, whether in the alimentary and other canals, or within the tissues, are ~~not~~ generated by the organism, the germs or ova or the primitive forms of the entozoa being always introduced from without. But their development and growth are only favored by a peculiar unhealthy condition of the system which has been very appropriately called helminthiasis. Drugs which are capable of correcting this condition will render the system unsuitable as a habitat of the worms, and thus indirectly lead to their expulsion or their death. It is, however, no less true that a system previously healthy may be rendered unhealthy by the presence of worms in the intestinal canal from the fact of their rapid multiplication and secretion of a poisonous material. The question of dose is a difficult problem to solve in the treatment of all such cases. As a general rule our small doses succeed. But, as has been well observed by Dr. Hughes, we should not make it an orthodoxy of our school to use infinitesimal doses alone. It is a great mistake to suppose that we do not secure the dynamic action of drugs when we use them in so-called material or massive doses. The action of all drugs is always dynamic, except in the very rare instances when they act purely mechanically or chemically, but in these instances they are not drugs properly called.

140. KREOSOTUM.

Constipation :

1. Constipation for five days.
2. Drawing, tearing, and sticking in rectum ; with frequent pressure to st., without being able to accomplish anything ; but hard st. followed after thirty-six hours, with much pressure, after which all pains ceased.
3. During menses, st. and flatulence accumulate in rectum for longer time than usual (feels there pressure with emission of flatus) ; after which menstrual blood always flows very profusely, and is frequently in clots.
4. St. hard, dry, nodular, with much pressure ; intermittent in character, occurring only every three or four days.

Diarrhœa :

1. Copious, soft, sometimes pappy st. (though usually constipated).
2. Two or three sts., a day, not D.-like.
3. Two normal sts. in morning without pain, in a constipated person.
4. Stools more frequent and easy, copious, soft, pasty, in one who used to have constipated st. every 2 or 3 days.
5. On third day, during menses, at 5 A. M., a thumping and clawing in abdomen, like dull shoots, followed by very urgent desire for st., with painless D., and during day seven D.-like sts., without pain.
6. Much blood often in clots, in diarrhœaic, thin, fetid st., which are always followed by great prostration. Typhus. (Hg.)

Cholera :

1. Cholera infantum, with bloody shreddy mucous evacuations, with or without oppressiveness, gagging, dull leaden countenance, somnolence. (Hg.)

Aggravation :

1. During menses.

Amelioration :

1. Creeping and urging in rectum, after st.

Before St :

1. Drawing, tearing and sticking in rectum.
2. Creeping and urging in rectum.

During St :

1. Pressure.
2. Passage of offensive flatus, especially during menses.
3. Cramplike pain in rectum.

After St :

1. Cessation of creeping and urging in rectum.
2. Cessation of all pains.

Rectum and Anus :

1. Large painful hæmorrhoids.
2. Cramplike pains in rectum, which extended upward into flank, so that she was obliged to walk quite bent over, and to sit down very cautiously.
3. Pressure in rectum causing urging to st., when only flatus was discharged.
4. Several successive stitches in rectum during menstruation.

which shoot upward to left flank and there remain for a while, so that she is obliged to stand up.

5. Creeping and urging in rectum relieved by st.

General Symptoms :

1. For some days before menstruation she was excited and uneasy. Constantly excited, peevish, and obstinate. Great depression of spirits, with disposition to weep and longing for death. Music or anything else that caused emotional excitement, she took very much to heart, and she could not refrain from weeping. Profound stupor, from which she could with difficulty be aroused for few minutes, but only again to relapse into her former state of unconsciousness. Weakness of memory, her thoughts vanish.
2. Confusion of head with vertigo. Whirling vertigo. Headache with sleepiness ; with feeling of intoxication ; with a feeling of heat in forehead. The hair became very gray during proving. Profuse falling of hair.
3. The tears are acrid, like saltwater. Difficulty of hearing during menstruation. Fluent catarrh. Nosebleed of thin bright red blood in morning ; of thick and black blood. Offensive odor in nose, which she cannot exactly specify, with loss of appetite.
4. Pale face. Dryness of lips as if he had much internal heat, though without thirst.
5. Drawing toothache, diffused itself over temporal region ; in upper and lower incisors whole day. Drawing-tearing toothache ; teeth feel swollen and too long. Dull throbbing in third upper back tooth, which begins to decay. Jerking pains in a hollow back tooth of left lower jaw. Drawing pains in gum of left upper jaw, the gum looks inflamed. Painful and difficult dentition, the teeth as soon as they appear show dark specks and begin to decay.
6. Mouth slimy, constantly obliged to spit much, in evening. Frothing at mouth. Accumulation of water in mouth. Tongue coated white. Taste flat ; bitter ; of straw ; sour on the back of tongue. Everything that she eats tastes bitter on swallowing. Soreness of left tonsil on swallowing. Thirst after chill. Alternations of chill and heat, with much thirst. Burning, scraping and rawness in throat. Dryness in fauces, they seem agglutinated. Burning pain along œsophagal tract. Impossibility of deglutition.
7. Eructations, empty ; of air ; tasteless ; acid. Nausea, and efforts to vomit. Retching in the morning fasting, like what she had during first months of pregnancy. Vomiting of sweetish water in morning, fasting. (Vomiting of food several hours after it has been eaten. Vomiting in the evening of all food eaten during the day:—*Bell.*) Burning in stomach. Tightness in stomach and pit of stomach obliging her to wear her clothes loose. Pain in pit of stomach as if a thread were drawn through it, or a small muscular fibre were torn out,

- which shoots through all her limbs, during rest. Gnawing in stomach when empty, followed by retching, disappearing after food.
8. Celic about umbilicus as if diarrhœa would occur; she was obliged to crouch quite together; it omits for a while and then recurs at different periods. Distension of abdomen. Increased peristaltic action and emission of flatulence. Distension of abdomen before and after menstruation. Whole abd. painful on motion, as if suppurating, disappearing during rest. Flatus smelling like bad eggs, during menstruation. If she presses during st., the spasmodic pain extends from lumbar vertebra into right inguinal region, and into hip joint making walking difficult.
 9. Excessive urging to urinate, she cannot get out of bed quick enough. Frequent emission of hot urine. She urinates six or seven times a day, always with great haste, and always passing a great deal. Strangury. Urine, chestnut brown; reddish, depositing red sediment; offensive; turbid; deposits copious white sediment. Urine spurts from her during each cough.
 10. Burning in genitals during coition in both man and woman. Leucorrhœa quite white, and has odor of green corn; or yellow, staining linen yellow, with great weakness of limbs; acrid, causing itching and biting of external genitals. Burning between pudenda on urinating. Stitches like electric shocks shoot from abdomen to vagina, which seem to come from abdomen so that they always make her start. Soreness between pudenda with biting pains. Violent itching and biting between labia which she could not refrain from rubbing.
 11. Shortness of breath, lower portion of chest were held tightly. Dreadful burning in chest, wanted water to quench. Violent stitches in chest, just above heart. Violent sticking in heart which extorts involuntary cry. Heart's action remarkably slow and weak.
 12. Weary and weak in limbs as if she had walked a long distance. Paralytic heaviness of right upper arm. Left thumb pains as if sprained and stiff. Weakness and prostration. Whole body became covered with large and "fatty" pustules (like small pox).
 13. Frequent yawning the whole day, with lachrymation, with chilliness. Restless sleep, with tossing about. Starting up in fright from sleep. Anxious dreams; of men wishing to follow and violate her; of snowing; of fire; of having poisoned herself; of falling from a height; of small objects becoming larger and larger; of dirty, disgusting linen; of something happening to her children which made her weep.
 14. General weakness and prostration. Violent pulsation over whole body, with a feeling as if whole body wavered, during rest not during motion. Twitching of muscles of all parts

of body, and spasmodic jerking of whole body. Numbness all over.

Remarks : The stool symptoms of KREOSOTUM, which we have given above as developed by provings, can scarcely be said to be characteristic enough to lead to its unerring selection in either constipation, diarrhœa or dysentery. We have no mention of the odor or of the color of the stools. The general symptoms, however, have led to its use in all the three morbid conditions mentioned above. It is likely to be useful in constipation when the stools occur every 2 or 3 days, and are hard, dry, and nodular. It may be found useful in both constipation and diarrhœa in females during the menstrual period, the constipation being characterized by stool and flatulence accumulating in rectum longer than usual, and the diarrhœa being painless though preceded by a thumping and clawing in the abdomen. It may be found useful also in both constipation and diarrhœa of children during dentition, when it is difficult and painful and the teeth show signs of caries. In none of our provers was dysentery developed by the drug, but we have the authority of Pereira that it has not only produced diarrhœa, but it has in large doses given rise even to dysentery. Pereira cites its successful employment by Mr. Spinks and Dr. Kesteven in common diarrhœa, and mentions the fact of its having been found very useful in a widespread epidemic of dysentery in Sweden ; and thus has borne unconscious testimony to the value of the homœopathic therapeutic law. Though not fully justified by the pathogenetic somptoms so far as we have got them, KREOSOTUM has been found useful in our school in diarrhœa when the stools are very offensive, dark brown, or even greenish, grayish and white, undigested, excoriating, especially if associated with nausea and vomiting. It has been found useful in dysentery of the putrid character. It has been found useful also in the thin, fœtid, stools of typhoid fever with clots of blood in them. It has been found useful in cholera infantum with stools of the character given by Dr. Hering.

• Gleanings from Contemporary Literature.

THE INFLUENCE OF THE THERAPEUTIC TEACHING OF HAHNEMANN IN 1796 UPON THE STUDY AND PRACTICE OF MEDICINE IN 1896.

By ALFRED C. POPE, M.D., M.R.C.S. Eng.,

President of the Homœopathic International Congress, 1890.*

DR. DUDGEON, LADIES, AND GENTLEMEN,—In endeavouring to fill the position in this Congress which my colleagues have done me the high honour of electing me to occupy, an honour of which I am deeply sensible, my first duty, and one that I congratulate myself on having to undertake, is, on my own behalf, and on behalf of all members of the medical profession practising homœopathically in the United Kingdom of Great Britain and Ireland, to offer to our colleagues from abroad a most sincere and hearty welcome to our shores. We thank them for having come at our invitation, to assist in our deliberations. We thank them for their contributions to our proceedings, and I can assure them that we anticipate with lively interest and heartfelt pleasure, the advantages we shall derive throughout the week from the opportunities which will be presented to us, both in our morning and afternoon meetings, and during the social intercourse of the intervals, for an interchange of thought and experience, for imparting and acquiring information on topics of mutual interest, which at all times, but more especially on occasions such as these, are opportunities which constitute most precious sources of personal pleasure and all intellectual profit.

The last occasion on which a Congress of this type gathered in London was in 1881. During the intervening fifteen years, not a few of those who took part in our meetings then have passed away from our midst. Drysdale, one of our honorary Vice-Presidents, and Black, our Treasurer, whose names will be familiar to you as among the pioneers of therapeutic reform in this country, and as the founders of the *British Journal of Homœopathy*; Meyhoffer, of Nice, another of our honorary Vice-Presidents; the ever active and energetic Mathias Roth; the philosophical and highly cultured Thomas Hayle; George Dunn, who had vigorously and successfully fought the battle of homœopathy amongst us here in England for five-and-forty years; Henry Harris, whose untiring, earnest zeal will long be remembered by all who knew him; Stephen Yeldham, whose devotion to the London Homœopathic Hospital will never be forgotten; Jabez Dake, of Pittsburgh, one of the brightest ornaments in the profession of medicine in the United States; de Gersdorff, the active and genial spirit who was with us from Boston; and Sawyer, of Monroe, in the State of Michigan, whose efforts to secure the teaching of homœopathic therapeutics in the University of Michigan never flagged until they were crowned with success—these and others, whose memories their surviving colleagues warmly cherish, having finished their course now rest from their labours, while we, one and all, gratefully remember that “their works do follow them.”

* The Address delivered at the opening of the Congress.

The period of time at which our Congress assembles is one full of interest. Looking back one hundred years, we find that the year 1796 was one during which an indelible impression was made upon medicine, both in its preventive and curative aspects. To England belongs the glory of the former; while that of the latter, far wider in its scope, pertains to Germany. It was in 1796 that Jenner, a general practitioner in a small country town in Gloucestershire, first demonstrated the efficiency of a measure which has, during the century, been the means of saving the lives of millions of human beings by rendering them proof against a disease which had previously caused an amount of misery and sorrow which is simply incalculable. Of vaccination, I would further remind you that Hahnemann, in an essay published at Gotha—just three years after the appearance of Jenner's *Inquiry into the Causes and Effects of the Variola Vaccinæ*—said: "It is only in accordance with my well-known maxim (the new principle) that small-pox, to give one example from among many, has an important prophylactic in the cow-pox." That vaccination does afford an illustration of the truth of this principle is admitted even by those who are pronounced opponents of homœopathy, and ignorant of the literature expounding and defending it. So lately as last October, Sir George Humphry, in an address before the Oxford Medical Society, said: "I have often wondered that the advocates of the *similia similibus*, in their vain endeavours to find some reasonable ground for their theory, did not alight upon or make more of the practice and results of vaccination, coupled with those of inoculation. Here was to hand the unmistakable evidence of a disease being hindered or prevented or stopped by the modification—by the like, that is to say—of that which caused it. Prevention and cure are near allies, and was it not possible—indeed, probable—that cure might be effected by means like those which staved off the disease?" Would that the Regius Professor of Surgery at Cambridge, and others of similar therapeutic views, would but take John Hunter's advice to Jenner when the latter told him of what he thought that he had discovered, and not merely "think, but try."

By Hahnemann the year 1796 was rendered notable in the history of medicine through the publication in Hufeland's *Journal*, during the course of it, of that essay, the principles contained in which were destined to revolutionise the practice of medicine, which have to a large extent revolutionised it during the first century, throughout which a knowledge of them has been within the reach of members of our profession, and which will still further revolutionise it during that on which we are entering.

In 1796 Hahnemann, after studying under and observing the practice of medicine by the most highly esteemed physicians of the day in Leipzig, Vienna, and Dresden, after acquiring a thorough knowledge of the ancient and modern literature of medicine, and having for some years tested the value of what he had seen, been taught, and read, had ceased to practise, and during six years had devoted himself to researches in science and literature. He had done so, because he had practical experience of the now generally admitted fact, that the powers which were at that time attributed

to medicinal substances, had no more reliable foundation than "vague observations" or "fanciful conjectures;" that pathological works abounded with an infinite number of arbitrary views respecting disease. He had learned, as he wrote to Hufeland, from personal experience at the bedside, "how far the methods of Sydenham and Friedrich Hoffmann, of Boerhaave, of Gaubius, of Stoll, of Quarin, Cullen, and de Haen, were capable of curing." Hence it was that, as the late Dr. Bristowe, in the course of his address at the British Medical Association in 1881, said, when speaking of Hahnemann: "He saw through the prevalent therapeutics of the day; he laughed to scorn the complicated and loathsome nostrums which even at that time disgraced the pharmacopœias; and he exposed with no little skill and success the emptiness and worthlessness of most of the therapeutical systems, which then and theretofore had prevailed in the medical schools." In fact, he came in 1790 to the conclusion formed by Sir John Forbes, in 1846, who, when writing regarding the then "condition of physic," said "Things have arrived at such a pitch that they cannot be worse, they must either end or mend." The history of medicine, the much boasted experience of 2,000 years, afforded no solid basis on which to endeavour to mend therapeutics.

Hippocrates, perhaps one of the clearest observers of disease the world has seen, a most cautious therapist for the age he lived in, "seldom strove to arrest diseased action, but chiefly to modify its severity and conduct it off by some mild natural discharge."*

Galen, whose opinion constituted the authority in medicine for 1500 years, was purely imaginary both in his pathology and in his views regarding the action of the medicines he prescribed. His prescriptions, which were passed on for generations in his treatise, *De Compositione Medicamentorum Secundum Locos*, each of which was composed of numerous drugs, regarding the real nature and effects of which little or nothing was known, furnishing the formulæ in general use.

The "wisdom and experience" of Galen were tersely criticised by that singular but unquestionably learned character, known in history as Paracelsus. "What you call humours," wrote Paracelsus, "are not diseases; that is disease which makes the humours. How can a physician think to discover the disease in the humours, when the humours spring out of the disease? It is not the snow that makes the winter, but the winter the snow; you mistake the product of disease for disease itself." Again, he says, "*Contraria contrariis curantur*—that is, hot remedies cure cold diseases. That is false, the whole design is false; there is no proof of a disease being hot, or of a remedy being cold."†

But proof was not sought, it was authority to which men in those days yielded their allegiance, and this authority it is which is described as "wisdom and experience."

Paracelsus had rudely shaken the authority of Galen, but the man was

* *Defence of Hahnemann and his Doctrines*, p. 6, Edinburgh, 1844.

† *Russell's History and Heroes of Medicine*.

near at hand who would presently convince the world that the only basis of all natural knowledge was fact, and that the only source of facts was experiment. Lord Chancellor Bacon's inductive philosophy did much for medical science. One of its first-fruits we have in William Harvey's study of the circulation of the blood.

Sydenham, while longing to know of specifics such as he had learned that cinchona bark was in intermittent fever, followed the evacuant method of Hippocrates, and clung to the polypharmacy of Galen. The practical features of the therapeutic teaching of succeeding authorities in medicine, whose influence was widely spread, of Boerhaave, Cullen, and Brown, differed little from that of Sydenham. Hence, when Hahnemann studied and practised the art of medicine, practitioners were, especially in Germany, directed by various professors, who, having secured to themselves prominence, constructed a theory of disease, and adapted the agencies they proposed to remedy it with in conformity with their several theories. Of the real facts of medicinal action little or nothing was known, and with the exception of Haller and von Stoerck, no one had sought to ascertain any such facts. Whatever the theory, the weapons of practice were ever the same—blood-letting, blistering, mercurialism, purgatives, emetics, astringents, so-called tonics, and preparations made from the roots and leaves of plants, a knowledge of the supposed virtues of which had been acquired from peasants. Such was the practical outcome of the medical wisdom and experience, which had accumulated during two thousand years, at the end of the eighteenth century, leading Girtanner, of Gottingen, to write in 1798, when advocating the system of Brown of Edinburgh, "As the healing art has no fixed principles, as nothing is demonstrated clearly in it, as there is little certain and reliable experience in it, every physician has a right to follow his opinion. Where there is no question of real knowledge, where every one is only guessing, one opinion is as good as another."

Turning, then, from the fictions with which Galen and his successors had so long enthralled the medical mind, Hahnemann sought for what of fact regarding disease and respecting the actions of medicine could be found scattered here and there in medical literature, with the view not of mending, but rather of reconstituting the therapeutic art. The conclusions to which his researches had led him, he gave to his profession through the medium of Hufeland's *Journal der Praktischen Arzeneikunde*,* in an essay on a "New Principle for ascertaining the Curative Powers of Drugs, with a few glances at those hitherto employed." Sir William Hamilton, of Edinburgh, in 1832, in an article on the "Life and Writings of Cullen," and again when republishing it in 1852, asked the somewhat humiliating question, "Has the practice of medicine made a single step since the days of Hippocrates?" Some three-and twenty years later the late Dr. Warburton Begbie, in an *Address in Medicine* at a meeting of the British Medical Association, strove hard to give a favourable reply to this question. Ignoring the work of Hahnemann, his effort to do so, ingenious, laboured, and strained as it

* Vol. II, part 3, 1798, and *Lesser Writings*, p. 295. London: Headland, 1862.

was, did but show how slight had been the progress of medicine, even in 1875, since the days of Hippocrates. As a matter of fact, the only step of any far-reaching importance that had been taken in the science and art of medicine since these primitive times was that the details of which are set forth in the essay, the title of which I have just quoted.

After referring to the means hitherto employed to ascertain the curative powers of drugs, Hahnemann dwells on the want of specific remedies. "The better, the more discerning and conscientious physicians," he writes, "have from time to time sought for remedies which should remove disease radically—in one word, for specific remedies—the most desirable, the most praise-worthy undertaking that can be imagined." The search for specific remedies, then, was the goal which Hahnemann endeavoured to reach.

In prosecuting this search it became necessary for him *first* to ascertain the effects upon the healthy human body which followed the ingestion of drugs. *Secondly*, he required to know what relation appeared to subsist between the action of a drug upon the healthy human body, and any disease which it had appeared to have been the means of curing.

The first principle he here lays down as necessary to solve these propositions is thus stated:—"In order to ascertain the actions of remedial agents for the purpose of applying them to the relief of human suffering, we should trust as little as possible to chance, but should go to work as rationally and methodically as possible." Then, after summing up the review of the modes hitherto adopted of ascertaining the medicinal powers of drugs with which, as I have said, he commenced this essay, he says: "Nothing then remains but to test the medicines we wish to investigate on the human body itself." Not, as had been done in all ages, on diseased organisms, but upon men and women in a state of health. He next propounds two questions which must be answered in such an inquiry as this:—(1) "What is the pure action of each [drug] by itself on the human body?" And then, in order that the knowledge thus obtained may be utilised clinically, (2) "what do observations of its action in this or that simple or complex disease teach us?"

"The last object," he continues, "is partly obtained in the practical writings of the best observers of all ages, but more especially of later times." The complications so often occurring in them compel him, however, to acknowledge that "we still require some natural normal standards, whereby we may be enabled to judge of the value and degree of truth of these observations." This standard is described as one to be only derived from the effects that a given medicinal substance has, by itself, in this and that dose developed in the healthy human body. With the exception of observations by Haller and von Stoercke made with three or four drugs, which might be correctly regarded as an answer to the first of the two questions Hahnemann set out to answer, the statement here given by him of the only real source from which we can obtain a knowledge of the powers of drugs upon man was made for the first time in the history of medicine. It furnished the basis of that science which the *Lancet* defined a dozen years

ago as "the science of the action of remedies, which deals with the modifications produced in healthy conditions by the operation of substances capable of producing modifications,"*—the science of pharmacology.

Further knowledge of this kind he directs us to seek for in the histories of designedly or accidentally swallowed medicines and poisons, and such as have been purposely taken by persons in order to test them. Such a collection of observations would, he thinks, prove to be "the foundation stone of a Materia Medica, the sacred book of its revelation." We have to-day such a collection of observations in the *Cyclopædia of Drug Pathogenesis*, provided for us by the zeal and industry of Dr. Richard Hughes, and the late Dr. Dake, of Pittsburgh in the United States.

It is important to notice—and never was it more so than it is at the present time—that Hahnemann clearly recognised that when we have learned, from such a source as he had described the real effects produced by medicinal substances, a key to their clinical application was still wanting. "Perhaps," he writes, "I am so fortunate as to be able to point out the principle under the guidance of which the *lacunæ* in medicine may be filled up, and the science perfected by the gradual discovery and application on rational principles of a suitable specific remedy for each, more especially for each chronic disease among the hitherto known (and among still unknown) medicines.

"It is contained, I may say, in the following axioms:—Every powerful medicinal substance produces in the human body a kind of peculiar disease; the more powerful the medicine, the more peculiarly marked and violent the disease.

"We should imitate nature, which sometimes cures a chronic disease by superadding another, and employ in the (especially chronic) disease we wish to cure that medicine which is able to produce another very similar artificial disease, and the former will be cured—*similia similibus*."

Then, separating the fact from the theory offered in explanation, of it, he says, "in order to cure radically certain chronic diseases we must search for medicines that can excite a similar disease (the more similar the better) in the human body."

The explanation here given by Hahnemann of the fact he had established as one which is purely speculative, one of the truth of which there is no evidence. It was probably based upon the doctrine, then recently taught by John Hunter, that "no two actions can take place in the same constitution nor in the same part at one and the same time No two different fevers can exist in the same constitution, nor two local diseases in the same part at the same time."—*Treatise on the Blood, Inflammation, and Gunshot Wounds*, p. 3.

Hahnemann established a fact of the reality of which he had clinical proof. To endeavour to go further, and seek for an explanation of it, was but to exhibit the natural tendency of the human mind to learn the reasons "how" and "why." *Felix qui potuit rerum cognoscere causas*.

A few years later he seems to have recognised his error, for he writes, "It matters little what may be the scientific explanation of *how it takes place*; I do not attach much importance to the attempts made to explain it." A century has elapsed since Hahnemann declared the fact that *similia similibus curentur* was the truest guide to the selection of drug remedies, and a scientific explanation of it is still a desideratum.

In this essay Hahnemann commended this principle of drug selection to his professional brethren as a trustworthy basis for the treatment of chronic diseases. In acute disease palliative remedies suggested by the principle *contraria contrariis curantur* were, he said, in the absence of any knowledge of "rapidly acting specifics,"—a knowledge of which he obtained a few years later—palliatives were proper, inasmuch as, "if we remove all obstacles, Nature will herself generally conquer." The palliatives he recites are "medicines which produce an opposite condition: for example, constipation by purgatives; inflamed blood by venesection, cold, and nitre; acidity in the stomach by alkalies; pains by opium." Such remedies, he says, "I call temporary."

Two other points are referred to in this essay which have ever been prominent features of Hahnemann's therapeutic method. Neither, however, is elaborated or definitely demonstrated.

Of the proper dose of a specifically acting medicine, he says it is one that is "very small"; and again he speaks of it as "the smallest possible." That by these terms Hahnemann meant something very different from the quantities which subsequent experience led him to consider sufficient, is clear from his naming in his illustrations one-tenth and one-twelfth of a grain as being the appropriate dose of arsenic.

The second point I alluded to is the single medicine. He had pleaded for this simplicity during many previous years. Cullen, however, though living in an age when polypharmacy was rife, had preceded him in urging the employment of single remedies. Dr. Warburton Begbie on one occasion quoted the Scotch professor as saying to his students, "You must not be surprised that I use only one remedy when I might employ two or three; for in using a multiplicity of remedies, when a cure does succeed it is not easy to perceive which is the most effectual." I wish that you may always have some opportunity of judging with regard to their proper effects." In the 1796 essay Hahnemann refers to this element of simplicity in prescribing in a note, where he says, "The habit still prevails in medicine of mixing together several different medicines. How was it possible," he asks, "to differentiate the powers of different medicines?" As his experience increased, as his therapeutic method was developed, the importance of giving medicines singly, uncombined with any others, was ever more and more earnestly pressed by him.

In this, the first of Hahnemann's Essays in which he set forth the principles which he considered necessary to accomplish a complete reform in therapeutics, I have shown you that he dwelt upon the following topics:—

The necessity for a reform in therapeutics.

The displacement of venesection from the category of remedial agents to the subordinate position of a palliative, to be used only in the absence of any knowledge of rapidly acting specifics.

The nature and need of medicines which should act specifically.

The study of drugs by experimental inquiries into their powers of modifying the health of the body.

Their clinical application by the guidance of the principal *similia similibus curentur*.

Their administration singly and in small doses.

How far, I proceed now to inquire, have the principles here sought met with acceptance from, and been endorsed by, the teachers of medicine in our own time?

With regard to the need of therapeutic reform, not only in Hahnemann's day, but amongst those who in our own professedly repudiate his teaching, the consensus of opinion is enormous. Moreover, it is so well known that I might be excused from further mentioning it. I will, however, quote one sentence from the pen of a physician of great learning and large experience; one, moreover, who I believe is truly desirous of improving the therapeutic art, could he but see how to do so without involving himself in an acknowledgment that the teaching of Hahnemann was sound. Speaking of therapeutics, "Our ideas," says Dr. Lauder Brunton, "are often hazy and indefinite. We give medicine at random, with no defined idea of what it should do, and trusting to chance for good results. When a remedy fails in its work we can give no reason for the failure. We do not even seek out a reason."* Hence, as the late Sir Andrew Clark said of the treatment of disease, "this the highest department of our art, and one of its chief ends, is in a backward and unsatisfactory condition."

Surely such opinion from such men abundantly justifies Hahnemann's desire for "more light," and his repudiation in their entirety of the therapeutic measures handed down disguised as the "wisdom and experience of 2,000 years."

Secondly, is the view entertained by Hahnemann in 1796 that venesection was no remedy for disease, but merely a palliative to remove obstructions, and so give to Nature a chance to assert her power of struggling to avoid death, endorsed by the physicians and teachers of our time, who refuse to employ those rapidly acting specifics, by the discovery of which in later years Hahnemann was enabled to dispense with the necessity for this spoliative measure.

In considering this very interesting question, I must ask you to remember that Hahnemann's teaching was the result of a purely clinical induction. Marshall Hall and John Reid of St. Andrews (in his "Essay on Apoplexy"), whose researches provided the anatomical and physiological data which scientifically demonstrated the only possible sphere of blood-letting as a therapeutic measure, did so 40 years later. Hahne-

* Gulestonian Lectures, 1877, p. 52.

mann's observation was purely clinical, and the scientific demonstration of its accuracy was a tribute, and no small one either, to the acuteness of his perception and the soundness of his judgment.

The late Dr. Markham, in his Goulstonian Lectures at the Royal College of Physicians in 1864, said, "Physiology, pathology, and experience all concur in teaching us that venesection has no directly beneficial influence over inflammations. It is only of service during certain stages of these inflammations, in which the action of the heart and lungs is impeded; its use lies in removing the obstructions which arise incidentally out of those inflammations" (*Brit. Med. Journal*, 1864).

Dr. Wilks, also of Guy's Hospital, shows his view of the sphere of venesection in therapeutics in a lecture published in the *Medical Times and Gazette*, 1868, p. 599, where in giving the details of a case illustrating its sphere of usefulness—and a singularly apposite one it is—said, "The lungs were gorged, the right side of the heart loaded, and the lancet came just in time to disencumber the overburdened organs, and so allowed them free play again for their functions."

In Hahnemann's words, bloodletting is employed nowadays, where it is employed at all, to effect the removal of obstacles—a temporary removal it may be—when "nature will generally conquer or the patient succumb."

On the question of the use of bloodletting, the views taught by Hahnemann in 1796 are precisely those of physicians to-day, who persist in ignoring the value of "those rapidly acting specifics" which the study derived from his therapeutic doctrines has led to the discovery of, and removed all necessity for bloodletting in any case. To the influence of the teaching and practice of Hahnemann, and those who have followed his lead, we owe our deliverance from one of the most destructive of the spoliative therapeutic measures which have come down to us from the days of Hippocrates. Not only was it regarded as a remedy in, but as a preventative of, disease. Every spring and autumn, people who ailed nothing were bled to prevent them having something. I remember, when an assistant to a surgeon-apothecary in the Midlands, on going through one of the streets of the town where he lived, being hailed by a sturdy, healthy-looking publican standing at the entrance of his house, with the question whether Mr. Watson would "be at home this afternoon." On replying in the affirmative, he said, "That's right, I was thinking of coming to get bled this afternoon." Looking at the man, to all appearance in the full vigour of health, I thought that it must have been such an one as he who furnished the corpse for the grave on the headstone of which was inscribed—

"I was well, I would be better,
And here I am."

How common was the spring and fall practice of bloodletting during the first half of this century, and how disastrous were its effects, are illustrated by a statement of Dr. Wilks.* He said that he had often asked the late Mr. Monson Hills, who for many years was cupper and surgery attendant

* *Medical Times and Gazette*, June 6th 1868, p. 599,

and for all practical purposes house-surgeon, at Guy's Hospital, as to his experience of the time when persons came to the hospital, especially at the "spring and fall," to be bled by the dozen or twenty in the morning. After I had supposed that they would walk in and as quietly walk out after the operation, he would answer, "No such thing; they commonly fainted and they might be seen lying in rows on the surgery floor like so many slaughtered sheep." Dr. Markham quoted the late Dr. Stokes, of Dublin, as saying that "when I was a student of the Meath Hospital hardly a morning passed when some twenty or thirty unfortunate creatures were not phlebotomised. The floor was running with blood to such an extent that it was difficult to cross the prescribing hall for fear of slipping. Patients were seen wallowing in their own blood."

It was the influence of Hahnemann's teaching in 1796, that first reduced bloodletting from its ancient position as a remedial agent in disease to that very subsidiary one, a palliative.

As its use was abandoned in the treatment of disease until it became, as the late Dr. Gross, the brilliant surgeon of Philadelphia, styled it, "a lost art," so bloodletting, as a preventive of disease, went out of fashion, and the surgery floors of our hospitals ceased to present that analogy to the floors of slaughter-houses that they are said to have done both at Guy's and at the Meath Hospital half a century ago.

The idea of the nature of specifics taught by Hahnemann differed from that looked forward to by his predecessors, and from that which is entertained by the great body of the profession to-day. Lord Bacon* deplored the want of "particular medicines which, by a specific property, are adapted to particular diseases." Sydenham, too, looked to the discovery of specifics as the chief object of medicine; but it was of specifics for individual diseases, such as cinchona bark was thought to be in age.

Hahnemann, on the contrary, did not think it possible to find any "thoroughly specific remedy for any disease of such and such a name burdened," he says in explanation, "with all the ramifications, concomitant affections, and variations which, in all pathological works, are so often detailed as essential to its character, as invariably pertaining to it." On the other hand, he says, "I am convinced that there are as many specifics as there are different states of individual disease; i.e., there are peculiar specifics for the pure disease, and others for its varieties, and for other abnormal states of the system." The difference between the two views is great. Cinchona bark or quinine, for example, is held to be a specific for intermittent fever. To the greater proportion of cases it is so, but there remain many over which it exerts no specific influence. It is to morbid conditions, rather than to concrete diseases, that Hahnemann saw the need for, and at the same time the possibility of, discovering specifics. The truth of this I have not seen anywhere recognised excepting in the writings of Hahnemann and those who have followed his therapeutic guidance. Still, the anxiety to acquire a knowledge of specifics in some form has been well pronounced on more

* *Russell's Heroes and History of Medicine*, p. 94.

than one occasion during the last hundred years. The late professor Alison of Edinburgh, wrote that he looked for the increasing efficacy and usefulness of medicine partly "in the discovery of specifics which may counteract the different diseases and actions of which the body is susceptible as effectually as the cinchona does the intermittent fever."*

Hahnemann regarded his method as one leading to the discovery of medicines acting specifically upon morbid conditions, and he originally termed it the *doctrine of specifics*; not until twelve years later do we find him referring to it as *homœopathic*.†

The late venerable Sir Thomas Watson, though making no allusion to specifics, in his address at the Clinical Society in 1868 expressed his desire to see therapeutics characterised by "more exactness of knowledge, and therefore more direct and intelligent purpose and more successful aim in what," he said, "is really the end and aim of all our labours—the application of remedies for the cure or relief of disease." To this end he urged an inquiry which was strikingly similar in its plan to that conducted by Hahnemann. He detailed this plan in the course of his address: first requiring "full and exact descriptions by competent and accurate observers of the symptoms, circumstances, and progress of disease in the living body, and of its behaviour under treatment by medicine prescribed with singleness and simplicity, and a definite aim or object, or sometimes it may be, of its behaviour under no treatment at all—authentic reports of trials with medicinal substances on the healthy human body—contributions of this order, multiplied in number, compared together, contrasted, sifted, and discussed by a variety of keen and instructed minds, of minds sceptical in the best and true sense of that word;" and then, with precisely the same hopes which stirred Hahnemann to undertake those enquiries which led to the publication of the essay, the teaching of which I have brought before you this afternoon, he looked to such a method of research as one that, "must lead at length, tardily but surely, to a better ascertainment of the rules—peradventure to the discovery even of the laws—by which our practice should be guided, and so bring up the therapeutic and crowning department of medicine to a nearer level with those which are strictly ministerial and subservient to this." Such a research as this it was that enabled Hahnemann in 1796 to point out to us "the law by which our practice should be guided." Were it repeated to-day, his conclusions arrived at a century ago, would but be confirmed.

It is, however, in the method of studying drug action it describes, and the mode in which the knowledge so obtained should be clinically applied, that its chief interest is centred.

Discarding all dependence upon chance, by which the knowledge of most remedies had been acquired, or upon "unguided experiment," to which Dr. Gowers, of University College Hospital, said a few weeks ago, that practitioners were indebted for a knowledge of nearly all drugs of "most

* "History of Medicine," prefixed to the *Encyclopædia of Practic. Medicine*, p. 110.

† Dudgeon's *Lectures on Homœopathy*, p. 56.

certain service," Hahnemann insisted that "to ascertain the actions of remedial agents for the purpose of applying them to the relief of human suffering we should trust as little as possible to chance, but go to work as rationally and methodically as possible." That, in order to accomplish this we should study the effects which a given medicinal substance, in this and that dose, has by itself developed in the healthy human body.* We were, in short, directed to acquire a knowledge of the "modifications produced in healthy conditions by the operation of substances capable of producing modifications."† This was what Hahnemann taught in 1796; this also was the definition of pharmacology given in the *Lancet* just 12 years ago, on the occasion of the institution of a Pharmacological Section by the British Medical Association.

Fifty years passed away after Hahnemann had traced out the line of research needed to obtain a knowledge of the action of drugs, and had pointed out the way in which the information thus acquired might be utilised in the treatment of disease, ere any impression of its value had been made upon any representative body of the medical profession. In 1842, however, at a scientific Congress held in Strasburgh, the following resolution was passed by the medical section of that body:—"The third section are unanimously of opinion that experiments with medicines on healthy individuals are, in the present state of medical science, of urgent necessity for physiology and therapeutics; and that it is desirable that all known facts should be methodically and scrupulously collected, and with prudence, cautiousness and scientific exactness arranged, written out, and published."‡

The next step in advance in this direction was taken 23 years later, when Dr. (now Sir Henry) Acland introduced the subject from the chair of the section of the British Association for the advancement of Science over which he presided at Birmingham in 1865, when the following resolution was agreed to, and was afterwards presented as a memorial to the General Medical Council.

"Having regard to the observations of the President, Professor Acland, in his Inaugural Address, the Committee of the Subsection of Physiology desire respectfully to intimate their opinion of the great advantage which would accrue to physiological (and thereby to medical) science if the General Council should think fit, by pecuniary grants and the appointment of suitable persons, to undertake investigations into the physiological action of medicine. A few agents, when administered in poisonous doses, have alone been made the subjects of such research; and whilst the remedial effects of even such well-known agents as quinine have been admitted for ages, their modes of action are still unknown. Even to this moment our knowledge of the action of remedies rests only upon ordinary observation and general inferences. The Committee is well aware of the extreme difficulty of prosecuting exact physiological enquiries in states of disease, and above all, of the necessity of devising new modes of investigation; but

* *Lesser Writings*, p. 311.

† *Lancet*, 1884.

‡ Sharp's *Essays on Medicine*, p. 419.

bearing in mind recent researches of an analogous nature in health, they do not doubt there are physiologists and physicians, of approved ability in such researches, who would be able to devise the methods and bring the results to a satisfactory conclusion. The Committee also venture to suggest that no experiments should be regarded as satisfactory which (in addition to others) are not made in ordinary medicinal doses in the disease for the relief of which the remedies are administered (as well as in poisonous doses), and which are not performed with all the care and exactitude known in modern physiological research."

This memorial was presented to the General Medical Council, but as the duties assigned to that body are defined by an Act of Parliament, it was clearly shown that to grant its prayer would have been *ultra vires*; even so, however, five members voted for the adoption of the proposal.

In 1866, when the Association met at Nottingham, the late Dr. Sharp of Rugby read a paper on the "Physiological Action of Medicines," in which he pressed upon the attention of the Association the mode of studying the action of medicines developed by Hahnemann, saying that if the British Association would "inaugurate a new investigation into the properties and uses of drugs as medicines, it would add another claim to the gratitude of England for the helping hand which it had held out to all lovers of science, a claim the magnitude of which could not easily be exaggerated."*

A few years later Drs. Ringer and Murrell studied the actions of gelsemium† and jaborandi,‡ after the manner of Hahnemann, and added considerably to our knowledge of the medicinal properties of these two drugs.

Ten years afterwards the British Medical Association expressed its sense of the importance of pharmacology by instituting a special section for its study and discussion at its annual meeting. So great was felt to be the increase of power likely to result to medicine from the cultivation of this study of "the modifications produced in healthy conditions by the operation of substances capable of producing modifications," as the *Lancet*§ described it, that this journal, fearful lest its rival might have the credit of its establishment, hastened to assert its own claims to having brought about this result. "From time to time," says the editor, "special articles on the subject appear in our pages—a course which has doubtless stimulated the British Medical Association to take the step referred to; and there is hardly an original paper, either on the physiological action of drugs or their practical application to the treatment of disease, which has not received attention at our hands." These original papers were limited chiefly, I believe, to the contributions of Drs. Ringer and Murrell. "Pharmacology," continues the editor, "has a brilliant future before it; and great credit is due to those who have devoted their time and energy to promoting and popularising the subject."

The address read at the first meeting of the new section was by no

* Sharp, *ibid.*, p. 421. † *Lancet*, 1875-6. ‡ *Practitioner*, 1876. § *Lancet*, August 16th, 1894.

means encouraging to those who looked for useful work from it in the future. The following year, however, Prof. Fraser, of Edinburgh, opened its proceedings with one of great interest. Defining pharmacology, he said: "This science—the science of the action of remedial substances—deals with the changes produced in normal physiological conditions by the influence of substances used as remedies.* It concerns itself with the elucidation of the changes, with determining what remedies do." Presently he shows his full recognition of the difficulty of making use of the knowledge of "what remedies do," and that he is quite alive to the fact that the application of pharmacological knowledge to the cure of disease constitutes a problem which is altogether separate from that determining the action of remedies. Just as Hahnemann in this essay in 1796, after describing how a knowledge of "what remedies do" might be obtained through the study of the "pure action of each by itself on the human body," added that in a collection of such observations we find the true nature, the real action of medicinal substances, and from them alone could we learn in what cases of disease they may be employed with success and certainty, so also did he say, "As the key—for this is still wanting—perhaps I am so fortunate as to be able to point out the principle under the guidance of which the lacunæ in medicine may be filled up, and the science perfected by the gradual discovery and application, on *rational* principles, of a suitable specific remedy for each" disease.* Thus Hahnemann in 1796, and Fraser in 1885, agreed that pharmacological knowledge alone was insufficient for therapeutic purposes. The former, however, bridges the gulf which existed between pharmacological knowledge and the treatment of disease by a therapeutic principle. How fruitful in gratifying results this spanning of the gulf has been during the last century, all have recognised who have availed themselves of it.

Professor Fraser regarded the application of pharmacology to therapeutics as impossible until the exact changes from normal functions have been ascertained, and until pathology has determined and gauged the kind and degree of the changes which exhibit themselves as symptoms of disease. On these terms we may ask, how long will it be ere these changes in function produced by disease will be exactly ascertained? How many years will have sped their course ere the investigations have been completed which are necessary to the determination of the kind and degree of the changes which exhibit themselves as symptoms of disease? But supposing that time to have arrived (prior to the Greek Kalends), how are we to apply the acquired knowledge so as to utilise that afforded by pharmacology? On this point Professor Fraser showed a silence which, at any rate, was discreet. But why this delay, this only too practical demonstration of the well-known fact, *ars longa, vita brevis*? We have in our possession the results of numerous experiments made with a large number of substances used as remedies. We have the records of cases of poisoning by a considerable proportion of them, and in not a few instances we have been able to

* *Latter Writings*, p. 311.

study the actual tissue derangements brought about by them as revealed in *post-mortem* examinations ; and yet again we have in a few, the deductions made by physiologists on their *modus operandi*, as revealed by experiments made on the lower animals. Of all these sources of pharmacological knowledge, the experiments on human beings have proved far and away the most useful for clinical purposes. These experiments show to us the perturbations of normal physiological functions, precisely in the same manner as ordinary diseases display them, viz. by symptoms, objective and subjective. We are, therefore, just as well able to infer the special tissue or tissues disturbed, and the particular function disordered by a drug, as we are those which arise from one of the ordinary causes of disease. And experience has abundantly proved that, however interesting and desirable may be the possession of more light on both departments of knowledge, what we have is adequate to obtain the relief of suffering and the cure of disease, so far as either is capable of being secured by drug remedies—provided that we rightly apply the one to the other.

Within three months of Prof. Fraser's disquisition on the importance of pharmacology in the present, and its therapeutic value in the somewhat distant future, another authority in clinical medicine came forward at Birmingham, and pronounced, I cannot say his benediction, upon pharmacology ; for, indeed, he gave it that faint praise which has proverbially the semblance of a curse about it. Nevertheless the opinion Dr. Wilks expressed in his discourse on Medical Treatment was entirely in harmony with that of the larger majority of the members of the profession of medicine. Speaking of pharmacology, he says, "This method" (of studying the action of drugs, that is to say) "has seemed to me to have often failed when put into practice, and so to have brought discredit upon the therapeutic art." That this was a perfectly correct estimate of it Dr. Wilks proceeded to illustrate by several examples of such failure. Time prevents my referring to more than one or two of them ; all, however, carry with them the same lesson.

Of strychnine he says : "This excites the spinal cord and throws the creature into movement ; therefore it must be a remedy for paralysis. A human being cannot move his arms or legs, but this drug shall throw them into action. Now I have seen," he adds, "hundreds—many hundreds—of persons with paralysis take strychnine, and I never remember to have seen it of any service. I should regard it as almost a useless remedy in this disease." It is interesting to note here that Dr. Lauder Brunton speaks of Magendie's experiments with *nux vomica* in 1809, whose property he found to be, like that of *upas*, to act specially on the spinal cord, to have provided "the therapeutical employment of the first-fruits of pharmacological research." While seeking for an opportunity of applying in practice this knowledge of the special action of *nux vomica* upon the spinal cord, "he was," says Dr. Brunton, "forestalled by M. Fouquier, who was induced, probably by the publication of Magendie's research, to use *nux vomica* in cases of paralysis. His success was great ; the results he obtained were shortly after confirmed by Magendie himself." "To pharmacological

research, therefore," adds Dr. Brunton, we owe one of the most valuable remedies we possess." On the other hand, Dr. Wilks regards this product of pharmacological research as "almost a useless remedy" in the disease in which the therapeutic idea of the day led to its employment. "It excites the spinal cord and throws the creature into movement; therefore," says Dr. Wilks, speaking the language of the modern pharmacologist, "it must be a remedy for paralysis." How contrary is this conclusion to the facts which observation has provided alike in this and analogous instances! The fact that it does produce this excitement of the spinal cord ought to be sufficient to convince a scientific and practical pharmacologist of the complete accuracy of Dr. Hughes' statement regarding this antipathic use of strychnine: "The internal use of this drug as a remedy in paralysis of central origin has been fraught with disappointment, and has frequently wrought mischief when the condition of the nervous centres has been one of congestion or inflammation." But, said Dr. Wilks, "it is most valuable in gastric and intestinal weakness, but I am not aware that its administration in these disorders was due to any suggestion of the physiologist." Perhaps he is not; but it was owing to the pharmacological experiments of Hahnemann, first published in 1805, that, applying *nux vomica* by the guidance of the principle that there must be a similarity between the action of a drug and the phenomena of disease, its value in these disorders was first known; and this bit of therapeutic practice was one of the earliest adopted by the medical opponents of homœopathy—illustrations of which I remember seeing in one or other of the medical journals fully 40 years ago. That is how this sphere of action of strychnine, the alkaloid of *nux vomica*, came into general use.

Coum is another drug which Dr. Wilks quotes the use of to prove the valueless character of pharmacology. "The experiments showed how it rendered inactive the motor columnus of the spinal cord, and therefore it was a remedy for chorea. It was given largely, even to poisonous doses, and then put aside as valueless." Dr. John Harley, to whose experiments, and to whose therapeutic inferences from them, Dr. Wilks here alludes, has really done useful work by his enquiries, even though his therapeutic deductions, based as they are on the therapeutic principle of *contraria contrariis curantur*—a remnant of the wisdom of 2,000 years, have rightly been set aside as worthless. Used by the light of the maxim *similia similibus curentur*—albeit those who do so are described by him as being "blindly led by an unscientific dogma,"—used, I say, by the light of the rule *similia similibus curentur*, they have been and are capable of being turned to most valuable account.

One more of Dr. Wilks's illustrations I must give, it is too striking to be omitted. He mentions *digitalis*, and of it he says, "It is true that experiments with *digitalis* show similar results to those observed where it is given as a remedy in disease of the heart;" but he adds, "It is quite another thing to assert that the results obtained in the first place by experiments on animals could have suggested its use in the case of the feeble irregular heart

of mitral disease." In the absence of Hahnemann's guiding principle this is true, but refer to his experiments and observations on its effects as presented in the *Materia Medica Pura*. We read in his preface to it, written in 1825, "From the following symptoms, which are by no means complete as to their number, it is undeniably evident that the morbid conditions of a chronic character physicians have sometimes hitherto cured with foxglove were all, without exception, cured homœopathically, although they were unaware of the fact."

Therefore Dr. Wilks, and others of the same school of therapeutic thought, would have us believe that pharmacology is more or less useless to the physician, because "it has so often failed when put into practice." Yes, but how has it been put into practice where it has failed? Obviously, on Dr. Wilks's own showing, it has been applied in harmony with the principle, *contraria contrariis curantur*. If there were no other method of applying the results of pharmacological research, I admit at once that such research would be of little or no value at all.

Contraria contrariis curantur is not the bridge that spans the deep and wide gulf which, we have been told, "separates the pharmacologist labouring to elucidate the mysteries of the subtle action of drugs upon the intricate and complicated human organism, and the therapist struggling to apply these results in the treatment of disease." Dr. Wilks has proved by the illustrations he has given that it is not so. But these illustrations are very far from proving that pharmacology is of no use. Of this I will give two illustrations from hospital physicians in London at this moment. Dr. Sidney Ringer found that jaborandi produced extreme diaphoresis. "In a short space of time the perspiration rapidly increases, the sweat running down the body and soaking the clothes."* The gentleman who introduced this drug into practice, Dr. Continho, of Pernambuco, recommended it as a powerful diaphoretic. Not so, however, Dr. Ringer. "Pilocarpine," the active principle of jaborandi, he says, "in doses of one-twentieth of a grain given thrice daily, will check profuse perspiration; and I have often found it useful in the sweating of phthisis, and other observers have verified my statement."

Another illustration that I will quote, as showing the value of pharmacology when illuminated by *similia similibus curentur* as the principle of drug selection, is that of uranium nitrate in diabetes. Here is a salt, the pathogenetic properties of which were wholly unknown until experiments with it, by M. Leconte, showed that in dogs it produced sugar in the urine. M. Leconte's thesis was published in 1853. In 1860, Dr. Bradford, then of Charleston, South Carolina, pointed out in the *North American Journal of Homœopathy* that Leconte's experiments offered a *prima facie* reason for expecting it to be useful in diabetes in the human subject; a suggestion, his following up of which had furnished him with satisfactory results in the few cases in which he had had the opportunity of trying it. In 1866 Dr. Hughes reported its successful use in some instances; and in 1874 Mr.

* *Hand-book of Therapeutics*, p. 505.

Carey, house surgeon of the West Ham Dispensary, reported his success in using this drug in diabetes in the *Lancet*, in which he gave full credit to his homœopathic precursors, a degree of scientific justice which the *Lancet* at that time could not tolerate, and the editor accordingly suppressed this part of Mr. Carey's report. Last year, again, Dr. Samuel West pointed out and illustrated, from the records of cases in his hospital and private practice, the value of uranium nitrate in diabetes. He was induced to try it in this form of disease by the fact that, as he says, "Dr. Hughes, a homœopathic physician, had suggested its use in diabetes," from Leconte's having shown it to produce glycosuria in dogs; and secondly from the experiments of Chittenden and Lambert, in 1888 and 1889, having shown it to have the power of checking the rapid digestion of starch. Remember, however, that the original selection of this drug as a remedy in diabetes was suggested by Hahnemann's principle of drug selection applied to the pharmacological inquiry of which it had been the subject; the theory explaining its *modus operandi* in the cure of diabetes is but an illustration of the wisdom that comes after the event—wisdom which is proverbially easy of attainment. Indeed, Dr. West admits that "as to its mode of action we can do nothing but speculate." The *mode of action* of a drug is ever a matter of speculation. The reason which governs its *selection* is a matter of fact, one that was suspected to be a fact partially true by Hippocrates and by many another observer, more acute than the average man, ever since his time.

Notwithstanding, however, the obvious necessity of a knowledge of the effects produced by drugs upon man in a state of health, before applying them to relieve him of disease, the science of pharmacology initiated by Hahnemann in 1796, and extended in its measures of research as scientific knowledge has advanced, has received a check at the hands of the Royal College of Physicians by the College resolving on the 13th of last June to omit pharmacology from the third, or final examination for its licence to practice. "This new departure," said the President of the Pharmaceutical Association last week, "was casting discredit on the use of medicines as a factor of the healing art." A cloud has thus come over the prospect of that "brilliant future" which only a dozen years ago the *Lancet* predicted for it. It is, I am persuaded, only a cloud, and that it is, moreover, one with a silver lining.

That pharmacology is valuable is generally admitted, but then comes the question, how can it be utilised at the bedside? "*What will he do with it?*" as the first Lord Lytton entitled one of his best novels. Hahnemann, as I have shown you, pointed out the difficulty, and offered a solution of it, one which has been abundantly proved to have been a true one during the last hundred years. The late Dr. Bristowe pointed to it in his address in Medicine at the British Medical Association meeting in 1881. "We must," he said, "admit the truth of the homœopathic view of the relations between medicines and diseases before we can admit the special value of investigations conducted only on the healthy body" (*British Medical Journal*, August, 1881). That is the true secret, the real cause of the omission of

pharmacology from the examinations for the diploma of the Conjoint Board of the Colleges of Physicians and Surgeons.

Pharmacology, *plus* the rule of drug selection established by Hahnemann in 1796, constitutes a therapeutic doctrine of the greatest importance and value to the practitioner of medicine. Separate these two points, and the first becomes useless for therapeutic purposes, while the second is impossible of application. United, they furnish the physician with a power he cannot otherwise wield, excepting indeed by accident; and even then he unconsciously acts upon it.

Thus Dr. Murrell (*Lancet*, February 22nd, 1896) writes that pharmacological observations are "not made with the view of curing disease, but with the view of ascertaining the actions of the agents employed;" and yet in a sentence or two we are assured, that "pharmacology is the basis of therapeutics and of all rational treatment."

The existence of therapeutic doctrine has been said to be impossible both by Dr. Paris, a former President of the College of Physicians, and by the distinguished physician who now occupies the chair of the College. But doctrine there is, sound and fruitful doctrine, and the clouds which now overshadow pharmacology will not be dispersed until the truth of this doctrine is admitted. There being, then, no means within the purview of the teachers of medicine of how to make pharmacology clinically useful to the practitioner, Professor Clifford Allbutt pleads for it by urging that the "disinterested pursuit of principles—that is, of abstract knowledge apart from immediate reference to practical ends—must be put to the front." Abstract knowledge is all very interesting, doubtless, to the pure scientist,—he can afford to wait for its practical value being demonstrated in years to come; but the man who takes a general practitioner's licence wants to possess knowledge which will enable him to cure disease. Professor Clifford Allbutt says that though pharmacology may now be "thrust out at the door," it will presently "return by the window." I hope and believe that it will. But I am fully assured that when it does so, it must, if it is to stay, return in such a fashion as to be made of practical value at the bedside. It must return with the teachers of it convinced that there is a connection between the physiological actions of a medicine and its therapeutic effects. They must not regard such a connection as an "error," as did Dr. Sawyer, of Birmingham, in his address on "Therapeutic Progress" (*Medical Times*, August 8th, 1885).

It remains true, as Hahnemann stated a century ago, that the results of pharmacology, to be of any value, must be directed by a therapeutic principle, and that that principle must be the one formulated as *similia similibus curentur*.

The small dose—the small dose, that is, of 1796—has been adopted wherever (except in the recent application by Dr. West of uranium nitrate in the treatment of diabetes) a specifically acting remedy has been appropriated from homœopathic literature. In every instance of this in Dr. Ringer's *Handbook of Therapeutics* the doses in which remedies of

this class are advised are such as would have filled the practitioner of fifty years ago, with contempt. Imagine, if you can, the indignation of such an one at being directed to "steep four to six heads of camomile flowers in a tea-cupful of boiling water for an hour, and then giving a tea-spoonful hourly," as Dr. Ringer recommends "in the ordinary summer diarrhoea of children."

The most striking illustration of the trend of opinion of the necessity of giving a specifically acting remedy in a small dose appeared a couple of months since in the *Lancet* (May 30th), in a communication by Dr. Lauder Brunton. He gave opium in constipation. He seems to have given it at first indiscriminately to his hospital out-patients complaining of constipation, as he would have done an ordinary aperient—compound rhubarb pills, powders of jalap and scammony, or senna draught. Opium is not an aperient save to those conditions on which it acts specifically,—conditions, i.e., the like of which it will produce. Hence, we are told, the "results were very uncertain. In some cases it acted, but in others there was no action at all." Just what might have been expected. However, in one case, a private one, it seems to have been specific, or in other words homœopathic. In this case Dr. Brunton says, "I did not know exactly what dose to give, and prescribed one minim of the tincture of opium every night. A week afterwards I had a report from the patient's husband to say his wife was no better. I replied, 'Double the quantity.' In a few days the report came, 'She is rather worse.' I then wrote to say, 'Give her half the first dose.' Three or four days afterwards I had a letter to say that the last medicine acted well, if anything a little too violently." This is exactly the experience which every physician must have who does not recognise that, when giving a homœopathically selected remedy, the dose must be smaller, very much smaller, than any he has been accustomed to order of one that is antipathically chosen. As Professor Jörg, of Leipzig, said in his *Contributions to a Future Materia Medica from Experiments with Medicines on Persons in Health*, published in 1825, "On the other hand, medicines operate most powerfully upon the sick when the symptoms correspond with those of the disease. A very small quantity of medicinal arnica will produce a violent effect upon persons who have an irritable state of the œsophagus and stomach. Mercurial preparations have, in very small doses, given rise to pains and loose stools, when administered in inflammatory states of the intestines; . . . yet why," he exclaims, "why should I occupy time by adducing more examples of a similar operation of medicines, since it is the very nature of the thing that a medicine must produce a much greater effect when it is applied to a body already suffering under an affection similar to that which the medicine itself is capable of producing?" (p. 16).

Of a desire for the use of medicines singly and uncombined, very little evidence, I believe, has appeared. Sir Thomas Watson, indeed, endorsed Hahnemann's teaching when he looked forward to the time when medicines would be given "singly and in simplicity."

A century has now elapsed since Hahnemann published the essay the

teaching of which I have laid before you. We have seen that of that teaching the position which Hahnemann, in the absence of any knowledge of a substitute for it, assigned to venesection, was that which anatomy, physiology, and clinical experience have together driven it to occupy in the minds of the physicians of our time. That the method he taught as that which should be pursued in order to acquire a knowledge of specifics and of their selection for the relief of disease, a method which he himself most successfully pursued, has been urged upon the attention of one of our chief medical societies by one of the most esteemed, experienced, and highly cultured physicians of the last half-century. •

While, further, we have seen the plan of study which he devised for ascertaining the "modifications produced in healthy conditions by the operation of substances capable of producing modifications," has with the additional means of research to attain the same end which the progress of science has suggested, been declared by leaders of medical thought and study to be the basis of therapeutics; that efforts have been made to apply the knowledge so obtained by the light of Galen's idea of *contraria contrariis curantur*, and that they have failed so conspicuously that the chief among our examining boards no longer requires the candidates for its licence to possess any knowledge of this kind; that when physicians who professedly repudiate the therapeutic doctrine of Hahnemann have, whether designedly or by accident, used the facts supplied by pharmacology in accordance with the principle of similarity, they have recorded striking therapeutic success; and finally, that the small dose has, in the same hands and under similar circumstances, proved to have been not only adequate, but necessary.

Such, then, is the position which Hahnemann's teaching in 1796 fills in the study and practice of medicine at the end of the first century after he had placed it before his profession. "Scientific truth," said Dr. Wilks at the re-opening of Guy's Hospital Physical Society at the beginning of last session—"scientific truth none can withstand." We all know how that throughout the century every obstacle, every obstruction that envy, hatred, malice and ignorance combined could devise has been placed in the way of the promulgation and illustration of Hahnemann's teaching, and yet the first principles of that teaching have permeated the minds of the more thoughtful and cultivated members of our profession. At this moment, of its two most important features, one is, on the highest authority, declared to be of the greatest consequence to the progress of the healing art; but inasmuch as it is incapable of clinical application without the other, it has been "thrust out of the door;" for has not "authority" declared this other to be everything that is scientifically repulsive? "Truth," said Lord Bacon, "is the daughter of time—not of authority." When the truth of the second part of the therapeutic doctrine that Hahnemann enunciated in 1796 is acknowledged, as in "time" it will be, then, and not before then, will pharmacology, to continue Dr. Clifford Allbutt's illustration, "return by the window." Then, but not before then, will the "brilliant future" predicted for it be rapidly and completely realised.

Then, in the words of him who has been well described as the Cicero of English medicine, then will the therapeutic and crowning department of medicine have been brought up to a nearer level with those which are strictly ministerial and subservient thereto.

Finally, then too will be recognised the true greatness of the work which Hahnemann accomplished for the art of medicine. Then will he, throughout the entire profession of medicine, be regarded, as all who have studied his life of earnest and successful labour, of self-sacrificing devotion to duty, and of zeal in striving to perfect the noble mission to which our lives are consecrated, regard him now—as one worthy of all the honour with which we can enshrine his memory.—*The Monthly Homœopathic Review*, Sept. 1896.

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THE
CALCUTTA JOURNAL
OF
MEDICINE

VOL. XV.] Nov. & Dec. 1896. [NOS. 11 & 12

THE FIFTH INTERNATIONAL HOMŒOPATHIC
CONGRESS ;—PRESIDENTIAL ADDRESS.

THE FIFTH INTERNATIONAL HOMŒOPATHIC CONGRESS has come and gone. We have now to see what fruit it has borne, whether its proceedings have been such as to advance the cause of homœopathy in particular and of the science and art of medicine in general.

The idea of periodical international gatherings of practitioners who recognize the truth in homœopathy we owe to our colleagues in the United States of America. Homœopathy has met with a reception in that land of freedom such as it has not met with anywhere else in the world. This shows that knowledge is best advanced in countries where men enjoy the greatest freedom.

As Dr. Dunham well observed at the first Congress,—“The history of Homœopathy shows that in countries in which the government is absolute, in which education and the exercise of the liberal professions and the arts connected therewith are under control of self-perpetuating boards or corporations, there our colleagues have found it difficult to obtain freedom to practise, and well nigh impossible to gain liberty to teach. In proportion as the government, whether of the realm or of

corporations, being in a degree representative, stands nearer to the people to whom the reform is a matter of vital interest, do our colleagues enjoy comparative freedom to practise and to teach. In our own land, where the liberty of the individual is limited only by the liberty of his neighbours, where order is maintained by a government 'of the people, for the people, by the people,' we practise and teach without hindrance; and the advancement of Homœopathy has been rapid and solid beyond precedent, because the people have so willed it."

The first International Homœopathic Congress was held under the name of the World's Homœopathic Convention in Philadelphia in June 26th to July 1, 1876, the centenary of the declaration of American Independence, under the presidency of the late Dr. Carroll Dunham.

The second Congress was held under the name of the International Homœopathic Convention in London, in July 1881, under the presidency of Dr. Richard Hughes.

The third was held, also under the name of the International Homœopathic Convention, in Basle, Switzerland, in August 1886, under the presidency of Dr. Meyhoffer, of Nice, France.

The fourth was held under the name of the International Homœopathic Congress, in Atlantic City, New Jersey, U. S. A., in June 16 to 22, 1891, under the presidency of Dr. I. T. Talbot, of Boston, Mass.*

A Congress of an international character was held under the name of the World's Congress of Homœopathic Physicians and Surgeons, in Chicago, Illinois, U. S. A., in May 24th to June 3, 1893, under the presidency of Dr. J. S. Mitchell of Chicago. This was not the lineal quinquennial descendant of the fourth Congress, but held under the auspices of the World's Congress Auxiliary of the World's Columbian Exhibition, and therefore is not allowed a place in the series of quinquennial Congresses. This, we must say, is rather unfortunate, as the Congress was really and emphatically of an international charac-

* By a strange oversight we wrongly gave, in our number for August, the place and date of this Congress as "Chicago, U. S., in May to June 1891," which are exactly the place and date of the World's Congress of Homœopathic Physicians and Surgeons.

ter, and the period of five years is a mere accident which will be departed from in the holding of the next congress in the year 1900.

The congress recently held in London, as a lineal descendant of the World's Homœopathic Convention, must therefore be looked upon technically as the fifth International Homœopathic Congress; and as such we have to review its proceedings.

We begin with the Presidential Address. Though this was the address delivered at the fifth congress, it was the third presidential address worthy of the name and title of address. The addresses at the third and fourth congresses were a few words spoken by the presidents by way of general advice, and were not elaborate statements of doctrine and practice, or even a sketch of the history of the progress made by our school or by the old school, as we had in the addresses at the first, the second, and the last congress.

Dr. Meyhoffer apologized for the informality and shortness of his address as due to the shortness of time he had for preparing it. He simply mournfully asked the question,—“How is it that in Europe the only true principle and guide in medical therapeutics, the revelation and practical application of which we owe to Hahnemann's genius, and which has already rendered in its secular existence such immense services to suffering humanity, has not made more progress?” And he attributed this to the fact “that we, Hahnemann's disciples, do not fully agree on the interpretation of the *similia similibus curantur*. The immediate followers of Hahnemann,” he observed, “and those who still adhered to the literal interpretation of his teaching, devote their whole attention to the subjective symptoms, and neglect more or less the pathological condition of organs. The more modern conception of Hahnemann's principle requires not only an external and subjective similitude between the drug action and the morbid condition, but it requires, as much as possible, a perfect similitude between the pathological condition and the pathogenetic action of the medicinal agent. Hence frequently a want of understanding and want of unity of action among the members of our body which must necessarily injure our good cause in the eyes of the public. Both these interpretations

of Hahnemann's principle are true," he further very truly observed, "but both also are very liable, if exclusively practised, to lead to error. The purely symptomatic treatment, by neglecting the pathological condition of the organs, will often fail to exhibit the truly homœopathic remedy; whereas the physio-pathologist will not seldom commit the same fault by not taking into account valuable concomitant and contingent symptoms. Hence," he said, and in doing so, struck the true keynote of homœopathic practice,—“there cannot be two homœopathic principles; there is only one. Both these two interpretations of the application of the ‘*similia*’ must merge into one in order to be complete, *i.e.*, the totality of the symptoms, objective and subjective, must be a guide to the selection of the remedy. There is unity in the disease;—there must also be unity in the similitude of the therapeutic action.”

Dr. Talbot had not the excuse of shortness of time, complained of by Dr. Meyhoffer, and he perhaps thought it enough as President to remind the Congress of the heavy responsibilities that rested upon them as physicians, as homœopathic physicians, and as representatives of the many thousands who could not be present at the meeting, but “who were earnestly waiting for any benefits we may accumulate, or any light we may throw upon the dark places of disease.” “Realizing, then,” he truly said, “the objects for which we are assembled, the responsibilities which rest upon us, the possibilities which we may accomplish, let every hour of our time be filled with valuable suggestion. When we consider the advance of medical science in the last decade, let us ask ourselves if we personally have done our full share in this progress. Have we, as believers in the efficacy of homœopathy, done all we could for its advancement? * * The field is broad enough, and if we rightly cultivate it we may date from this hour and place a new era in medical progress.”

Dr. Talbot has, by the way in which he performed, his function as President, presented a curious view of that function which is not unimportant. It is that of simply watching and regulating the proceedings. He presented to the Congress another address, which was on “the Duties and Responsibilities of Homœopathic Colleges as Leaders in Medical Progress,”

and which might well have formed the presidential address, but which he preferred to submit as an ordinary member, on which discussions were invited.

This view of the presidential function does not commend itself to us, and we are glad to find, it did not to Dr. Pope, the President of the last Congress. He followed the example of his predecessors of the first and second Congresses, and gave an elaborate address, choosing as his subject—"The Influence of the therapeutic teaching of Hahnemann in 1796 upon the Study and Practice of Medicine in 1896."

We have given this address *in extenso* in our last number, and our readers must have seen that by "the Study and Practice of Medicine in 1896," Dr. Pope has meant, not what the phrase, literally interpreted, signifies, namely, the whole study and practice of medicine as it exists in 1896 throughout the world in all its various phases, but only as it exists in the old school which is dominant, because still the majority, in the civilized world. He has excluded from his consideration the practice and study of medicine as it prevails among the new school, probably because this school is the direct product and embodiment of Hahnemann's teaching in 1796. An explanation to this effect was necessary to prepare his audience for what he was going to lay before them.

We do not quite understand the reason why Dr. Pope should have undertaken to consider the influence of the crude teaching of Hahnemann in 1796 instead of that of his subsequent mature teaching. Was it because the year 1896 happened to be the centenary of the first announcement of the homœopathic principle? Or was it also because he wanted to show, that the old school has not, in its groping after therapeutic progress, come up even to that crude teaching, which was the expression of but the first dawning of light in the mind of the reformer?

The teaching of Hahnemann in 1796 is contained in his "Essay on a New Principle for ascertaining the Curative Powers of Drugs, with a few glances at those hitherto employed," which was published in Hufeland's *Journal of Practical Medicine*. The principles contained in this Essay, says Dr. Pope, "were destined to revolutionize the practice of medicine during the first century, throughout which a knowledge of them has been

within the reach of members of our profession, and which will still further revolutionize it during that which we are entering."

This teaching was both destructive and constructive; it had its negative and its positive side. The glance Hahnemann took at the methods already employed for ascertaining the curative powers of drugs showed him that they were not only insufficient but often deceptive and fallacious. After having taken this glance he had to say, "we have seen, that for this object the aid of chemistry is still imperfect, and must only be resorted to with caution; that the similarity of genera of plants in the natural system, as also the similarity of species of one genus, give but obscure hints; that the sensible properties of drugs teach us mere generalities, and these invalidated by many exceptions; that the changes that take place in the blood from the admixture of medicines teach nothing; and that the injection of the latter into the blood-vessels of animals, as also the effects on animals to which medicines have been administered, is much too rude a mode of proceeding, to enable us therefrom to judge of the finer actions of remedies."

Each of these methods, the insufficiency and the fallacy of which Hahnemann exposed, with unanswerable logic based upon facts, in the "Essay," is still had recourse to even by some of our own colleagues, and Dr. Pope might well have directed attention to this fact as showing how very slight has been the influence of Hahnemann's negative teaching in this direction. He should have drawn particular attention to the reformer's observations on vivisectional and other experiments on animals as specially worthy of being borne in mind by members of the old school who are attempting to raise the superstructure of pharmacology with materials drawn from such experiments.*

* These observations are so appropriate and needful in the present day that we are tempted to quote them here.—

"Even the *injection of drugs into the bloodvessels of animals* is for the same reason a very heterogeneous and uncertain method. To mention only one circumstance,—a teaspoonful of concentrated cherry-laurel water will most certainly kill a rabbit, when taken into the stomach, whereas, if injected into the jugular vein, it causes no change, the animal remains lively and well.

But at all events, some will say, the administration of drugs to animals by the mouth will furnish some certain results respecting their medicinal action. By no means! How greatly do their bodies differ from ours! A pig can swallow a large quantity of nux vomica without injury, and

Dr. Pope's concern, however, was evidently to show the influence of Hahnemann's positive therapeutic teaching in 1796 on the therapeutics of 1896. To accomplish this object most effectively he reduced the principles of that teaching to the following heads:—

1. The necessity of a reform in therapeutics.
2. The displacement of venesection from the category of remedial agents to the subordinate position of a palliative, to be used only in the absence of any knowledge of rapidly acting specifics.
3. The nature and need of medicines which should act specifically.
4. The study of drugs by experimental inquiries into their powers of modifying the health of the body.
5. Their clinical application by the guidance of the principle *similia similibus curentur*.
6. Their administration singly and in small doses.

And then taking them *seriatim* he showed, by citations from "the teachers of medicine in our own time," that every one of the principles above enunciated has been accepted and endorsed by these teachers, in nearly every case, let us remark, without any acknowledgment of Hahnemann's teaching except when they could have a fling at the reformer.

As regards the first head, namely, the need of reform in the

yet men have been killed with fifteen grains. A dog bore an ounce of the fresh leaves, flowers, and seeds of monkshood; what man would not have died of such a dose? Horses eat it, when dried, without injury. Yew leaves, though so fatal to man, fatten some of our domestic animals. And how can we draw conclusions relative to the action of medicines on man, from their effects on the lower animals, when even among the latter they vary so much? The stomach of a wolf poisoned with monkshood was found inflamed, but not that of a large and a small cat, poisoned by the same substance. What can we infer from this? Certainly, not much, if I may not say, nothing. Thus much, at least, is certain, that the fine internal changes and sensations, which man can express by words, must be totally wanting in the lower animals.

"In order to try if a substance can develop very violent or dangerous effects, this may in general be readily ascertained by experiments on several animals at once, as likewise any general manifest action on the motions of the limbs, variations of temperature, evacuations upwards and downwards, and the like, but never anything connected or decisive that may influence our conclusions with regard to the proper curative virtues of the agent on the human subject. For this, such experiments are too obscure, too rude, and, if I may be allowed the expression, too awkward."

very fundamentals of the science and art of medicine, Dr. Pope very truly says that "not only in Hahnemann's day, but amongst those who in our own professedly repudiate his teaching, the consensus of opinion is enormous." He might have gone further, and instead of justifying Hahnemann's desire for "more light" by this consensus of *later* opinion he would have only stated the fact if he had said that the cry for therapeutic reform was forced upon the profession by Hahnemann's teaching, and that this cry, though loud and uttered by the thoughtful leaders, has hitherto proved to be a cry in the wilderness, simply because the mob of the profession would not have the reform in the only direction in which it can be effected.

With reference to the second head, we have to remark that it was not only venesection, but the equally abused purgatives and anodynes, that Hahnemann displaced to the subordinate position of palliative, and Dr. Pope might have cited the opinions of some of the highest old school authorities in condemnation of these last.

With reference to the third head Dr. Pope admits the great difference between the views of Hahnemann even as we find them expressed in his crude teaching of 1796 and the views of the old school as regards the nature or true character of specific medicines. "Cinchona bark or quinine, for example," he says, "is held to be a specific for intermittent fever. To the greater portion of cases it is so, but there remain many over which it exerts no specific influence. It is to morbid conditions, rather than to concrete diseases, that Hahnemann saw the need for, and at the same time the possibility, of discovering specifics. The truth of this I have not seen anywhere recognised excepting in the writings of Hahnemann and those who have followed his therapeutic guidance." But notwithstanding this difference Dr. Pope notices rejoicingly as a sign of approach to Hahnemann's method by the old school that among its members "the anxiety to acquire a knowledge of specifics in some form has been well pronounced on more than one occasion during the last hundred years," and quotes the late Prof. Alison and the late Sir Thomas Watson in illustration. The difference, however, between the two views of specifics is so great that it is doubtful whether the old school, notwithstanding its anxiety to discover

specifics, will ever succeed in doing so, for the simple reason that there are no specifics in the sense understood by them.

With reference to the fourth head Dr. Pope says that "fifty years passed away after Hahnemann had traced out the line of research needed to obtain a knowledge of the action of drugs,* and had pointed out the way in which the information thus acquired might be utilized in the treatment of disease, ere any impression of its value had been made on any representative

* We give entire what Hahnemann said on the subject in the Essay:—

"*Nothing then remains but to test the medicines we wish to investigate on the human body itself.* The necessity of this has been perceived in all ages, but a false way was generally followed, inasmuch as they were, as above stated, only employed empirically and capriciously in diseases. The reaction of the diseased organism, however, to an untested or imperfectly tested remedy, gives such intricate results, that their application is impossible for the most acute physician. Either nothing happens, or there occur aggravations, changes, amelioration, recovery, death—without the possibility of the greatest practical genius being able to divine what part the diseased organism, and what the remedy (in a dose, perchance, too great, moderate, or too small) played in effecting the result. They teach nothing, and only lead to false conclusions. * * *

"The true physician, whose sole aim is to perfect his art, can avail himself of no other information respecting medicines, than—

"First—*What is the pure action of each by itself on the human body?*

Second—*What do observations of its action in this or that simple or complex disease teach us?*

"The last object is partly obtained in the practical writings of the best observers of all ages, but more especially of later times. Throughout these, the, as yet, only source of the real knowledge of the powers of drugs in diseases is scattered; there we find it faithfully related, how the simplest drugs were employed in accurately described cases, how far they proved serviceable, and how far they were hurtful or less beneficial. Would to God such relations were more numerous!

• "But even among them contradictions so often occur, one condemning in a certain case what another found of use in a similar case, that one cannot but remark that we still require some natural normal standard, whereby we may be enabled to judge of the value and degree of truth of their observations.

"This standard, methinks, can only be derived from the effects that a given medicinal substance has, by itself, in this and that dose, developed in the healthy human body.

"To this belong the histories of designedly or accidentally swallowed medicines and poisons, and such as have been purposely taken by persons, in order to test them; or which have been given to healthy individuals, to criminals, &c.; probably also those cases in which an improperly powerfully acting substance has been employed as a household remedy or medicine, in slight or easily determined diseases.

"A complete collection of such observations, with remarks on the degree of reliance to be placed on their reporters, would, if I mistake not, be the foundation stone of a *materia medica*, the sacred book of its revelation.

"In them alone can the true nature, the real action of medicinal substances be *methodically* discovered, from them alone can we learn in what cases of disease they may be employed with success and certainty."

body of the medical profession." He then gives an account of the progress made in this direction by the old school since 1842 when at a scientific Congress held at Strasburg, it was resolved that "the third section (medical) are unanimously of opinion that experiments with medicines on healthy individuals are, in the present state of medical science, of urgent necessity for physiology and therapeutics." So convinced were they of this necessity that two eminent members of the old school, Drs. Ringer and Murrell, (one of whom has borrowed most largely, of course without the slightest acknowledgment, from the Homœopathic Materia Medica,) actually proved Gelseminum and Jaborandi, in 1875-6, and have thus made valuable additions to our knowledge of these drugs. The British Medical Association lost no time in showing its appreciation of the importance of the, to them, newly (!) born science of drugs, "by instituting a special section for its study and discussion at its annual meeting," in blissful forgetfulness of the fact that the science was being cultivated by the hated and anathematized new school for nearly a century.

But though the importance of pharmacology was acknowledged by the old school in a fit of blind enthusiasm, probably to outshine the new school, and though a brilliant future was prophesied of it, we do not think that any actual progress in its prosecution was made beyond what Drs. Ringer and Murrell did for Gelseminum and Jaborandi. Nor could any further progress be made when pharmacology brought those who studied it face to face with the hated law of healing enforced by Hahnemann. The late Dr. Bristowe had honestly to confess that "we must admit the truth of the homœopathic view of the relations between medicines and diseases before we can admit the special value of investigations conducted only on the healthy body."

It would appear from what Dr. Pope has shown that as respects pharmacology there are two parties in the old school, the old conservatives carrying with them the larger majority, who violently resist reform and lose temper at the very name of homœopathy, and the younger men who would welcome any reform but for fear of the former, and who do not scruple to profit in their practice by the law of *similia similibus* though afraid to acknowledge it publicly lest they lose caste with the

profession. The former, represented by men like Dr. Wilks, cannot see any good in pharmacology, indeed, looks upon it as having "brought discredit upon the therapeutic art." The latter, represented by Drs. Lauder Brunton, Ringer, and Murrell, entertain great hopes from pharmacology. Dr. Murrell has not hesitated to declare that "pharmacology is the basis of therapeutics and of all rational treatment, and that a medical man who does not know the principles on which he prescribes, is an empiric and little better than a quack." Such language coming from a member of the old school is severe condemnation of his colleagues, most of whom delight in empiricism.

Dr. Pope charges Dr. Murrell with inconsistency for stating that "the observations (pharmacological) are made, not with the *direct* object of curing diseases, but with the view of ascertaining the action of the agent employed." Dr. Pope, in quoting this passage, leaves out the word "direct" which has an important bearing on the meaning of the sentence. Pharmacological, like all other scientific researches, should be conducted without any reference to the fruits they might lead to, though of course the fruits by proper application, will necessarily follow.

Dr. Pope has shown that the reason of pharmacological knowledge failing at the hands of Dr. Wilks to give satisfactory results, is not because such knowledge is worthless, but because it has been applied according to the principle, *contraria contrariis curantur*, which "is not the bridge that spans the deep and wide gulf which, we have been told, 'separates the pharmacologist labouring to elucidate the mysteries of the subtle action of drugs upon the intricate and complicated human organism, and the therapist struggling to apply these results in the treatment of disease.'" Dr. Pope shows that this bridge is furnished by the opposite principle *similia similibus curantur*, as illustrated by Dr. Ringer's successful use of pilocarpine in checking perspiration, and Dr. West's equally successful use of nitrate of uranium in diabetes. Hence, says Dr. Pope, "it remains true, as Hahnemann stated a century ago, that the results of pharmacology, to be of any value, must be directed by a therapeutic principle, and that principle must be the one formulated as *similia similibus curentur*." To admit this would have been too much for the conservative majority of the

old school, and accordingly they managed to have pharmacology as a separate subject omitted from the Third or Final Examination of the Royal College of Physicians of London, and thus "the basis of therapeutics and of all rational treatment" is again at a discount. Dr. Pope hopes and believes with Prof. Clifford Albutt that though now "thrust out at the door," pharmacology "will return by the window."

With reference to the sixth head Dr. Pope does not find it difficult to show, from the practice of such men as Drs. Brunton, Ringer, and others, that "the small dose—the small dose, that is, of 1796—has been adopted whenever (except in the recent application by Dr. West of uranium nitrate in the treatment of diabetes) a specifically acting remedy has been appropriated from homœopathic literature." As regards the single remedy Dr. Pope has not been able to show any general acceptance of it, though it was urged even before Hahnemann by Cullen, and quite recently by the late Sir Thomas Watson who "looked forward to the time when medicines would be given 'singly and in simplicity.'" The prescriptions of practitioners of the old school, though under the influence of Hahnemann's teaching they have become much simpler than what they were in his day, are still disfigured by the jumbling of a heterogeneous medley of drugs, which is simply the result of ignorance of their pure actions.

Our readers must have seen, from a perusal of the address itself, and from our comments on the various topics discussed in it, that Dr. Pope has done justice to the subject he chose to discourse upon. The address was an elaborate performance, displaying extensive learning and thoroughness which characterize all Dr. Pope's performances. The approaches made by the old school towards the new in almost every point of doctrine and practice established by Hahnemann have been clearly pointed out and exposed. As an address to a congress of that school it would have been a masterly one, calculated to shame it for its doings, if not to convince it of its errors and perversities. But, we are almost inclined to ask, was the address quite appropriate for a congress of the new school? Was it necessary to remind our own colleagues of the gropings of the other school towards the goal we have already attained? There are, in our school, topics of

burning interest which have caused unpleasant splits among us, and which therefore demand our earnest attention. The question of the limitations of the law of *similia similibus*, the question of the dose, the question of symptomatology versus pathology in the interpretation and application of our law of healing, the question of auxiliaries, the question of the relation of isopathy to homœopathy,—these furnish topics on which, among other things, the Presidents of our periodical gatherings are expected to dwell and advance their opinion. Very few in our school were more fitted to do so than the worthy president of the late congress. We hope to be pardoned, therefore, if we confess that his address, elaborate and learned as it was, has not, by reason of the very nature of its subject, fulfilled the high expectations we had entertained from it.

THE LATE W. GRIFFITH AND BOTANY IN INDIA.

The chair of Botany in the Calcutta Medical College has been particularly fortunate ever since its creation. It was a happy idea of Government to make the Superintendents of its Botanical Garden at Shibpur *ex officio* occupants of that chair. These superintendents have invariably been men of research who have considerably advanced our knowledge of the vegetable kingdom, and have thus commanded world-wide reputation as distinguished men of science. The subject of this notice, though his term of office as superintendent and professor was very short, scarcely two years, and his life itself was unfortunately very short too, only thirty-four years, has by his original contributions made solid additions to our knowledge of the Indian Flora. The present distinguished Superintendent of the Botanical Garden at Shibpur and Professor of Botany in the Calcutta Medical College, Dr. George King, is giving short memoirs of the former superintendents, in the admirable "Annals" of the Garden, of which he is the originator and to which he is himself making the largest and most valuable contributions. So far as we are aware, no memoir of Griffith has yet appeared, and we have not seen any notice of his life elsewhere. We have, therefore, gathered the following facts of that interesting and valuable life, in order to preserve his memory amongst our countrymen for whom he labored with such earnestness and zeal.

WILLIAM GRIFFITH was born in March 1810, at Ham in the county of Surrey. He studied medicine in the University College, London, where Botany was taught by the celebrated Dr. Lindley; and thus acquired an early predilection for the natural system. Among other prizes, he obtained the gold medal in Comparative Anatomy and the gold medal in Botany—the first instance known since the establishment of the College of any one student gaining such honors in two branches of study so very different from each other, the next instance which happened in 1847 being that of Bholanath Bose, Mr. Griffith's most promising pupil in the Calcutta Medical College, who subsequently completed his medical education in University College, London, and obtained the degree of Doctor of Medicine of that University.

In 1832 Mr. Griffith came out to India as an Assistant-Surgeon of the Madras Medical Service, devoted himself to the study of plants, and by personal investigation acquired an intimate knowledge of Indian Botany in the different provinces of British India, and in the neighbouring kingdoms from the banks of the Helmund and Oxus to the Straits of Malacca. On the departure from India on sick leave of Dr. N. Wallich, Superintendent of the Government Botanical Garden and the first Professor of Botany in the Calcutta Medical College, Mr. Griffith was appointed to officiate for him in both capacities and he continued to hold these appointments for a period of about two years, that is, until August 1844, when Dr. Wallich returned to India and resumed charge of his duties.

In May 1843 a new code of rules and regulations for the Medical College was promulgated by the local Government. Section 11 of these rules provided that the Botanical lectures should consist of two courses—in one of which the structure, physiology and morphology of plants would be explained, in the other, “the artificial and natural systems as represented by Indian plants—those of the commonest description being preferred as illustrations.” Full notices of the general and individual, medicinal and economical properties of each Indian natural family should be given, and most particular attention should be pointedly drawn to the families in which valuable remedies may be expected.

The lectures should be fully illustrated by diagrams, drawings and living plants, and the students made regularly to attend at the Botanical Garden, where Botany would be studied "at the bed side of nature", and "the subjects of the lectures brought to bear on growing plants." They would also "be directed in herborising examinations, which will be held as often as may be required in which the degree of knowledge acquired will be tested by reference to objects of a somewhat different form from those exhibited during the lectures." In his class of Botany Mr. Griffith followed these instructions, and the lectures he delivered were so interesting as to elicit the commendation of the College Council, the late Council of Education, and the Government of Bengal. At the close of the session of 1843-44 while distributing prizes and honors to the students of the College, the Hon'ble W. W. Bird, the then Deputy Governor of Bengal, remarked that "great progress has been made under the able superintendence of Mr. Griffith, in the study of Botany, a knowledge of which is so necessary to the Medical practitioner." The system of instruction pursued by Mr. Griffith in his class, and his general views on the subject, were embodied in the detailed report of his class for 1843-44, and as it was justly characterized by the College Council to be "an important document upon a subject of much interest in this country," we reproduce it below in extenso:—

"In the class of Botany the system of instruction followed was that published in the Rules and Regulations of the Medical College, Section 11, in which the main object in view was to ascertain how far the students could profit by a course of philosophical Botany, for it was presumed that general principles constantly and systematically presented to them would be of much greater interest and utility to them, than isolated, unarranged, and dry details of partial forms and partial properties.

The course having been completed early in October, a few lectures on Physiology as applicable to Horticulture were given, and the course ended with a general view of the relations in structure and properties of the families which had been lectured upon.

The system proposed in the Rules was likewise followed up in the application of that part of the grant of money available for the class of Botany: and copies of Lindley's Elements, Introduction to Botany, Introduction to the Natural Orders, and the Article

Botany in the Library of Useful Knowledge were placed in the Library.

The attendance upon the whole was regular, that of the senior students especially so. So were likewise their weekly visits to the gardens, from which they returned with two or more specimens for examination and description in writing, which were submitted to my remarks on the ensuing visit.

The result has been decidedly satisfactory. Two of the candidates for Diplomas have exhibited great proficiency, and three other students who will be candidates for Diplomas at the end of the next session, promise equal proficiency.

Of the last mentioned set of students, the oral were more satisfactory than the written examinations. This I attribute entirely to want of time to answer so many difficult questions on many subjects in one day, and to the students naturally preferring to answer those first and with most care, which related to the more immediately necessary branches of their education. There was also remarked a general deficiency in knowledge of the character of the natural families, attributable to their not being able to visit regularly these gardens: the visits being confined for want of sufficient conveyance allowance, to those who exhibited throughout the greatest proficiency, and who were candidates for Diplomas. On this point I may express a hope that the students will soon begin to feel that kind of enthusiasm that will inspire them to overcome difficulties, and make the most of their means, however limited, by visiting the gardens in the most economical way of travelling, namely, in dinghies. Such sacrifices of comfort in pursuit of knowledge, I would take as an earnest of future eminence on the part of the students.

The state of this class is nevertheless to be considered as very encouraging, and the number of proficients, and of those who promise proficiency, is not inconsiderable, when compared with the results of the sessions of even large botanical classes in England. It is the more encouraging to me because the duties were altogether novel to me, neither had I ever been accustomed to such a class of natives: more encouraging still, because the students had never before been able to attend a complete course, and because up to a late period of the course they had no books to consult, nothing in fact to depend on, but the lectures themselves.

Moreover, the number of illustrative diagrams on my taking charge of the class was extremely limited, and the means of the class altogether insufficient. As a proof of this, I may state, that on the

first visit of the students to the Botanic Gardens, I ascertained that no one, not even one of the passed students, knew the distinctive characters of Monocotyledonous and Dicotyledonous Plants; not one of them had a definite idea of the fundamental parts of Botanical Science.

Now, I have grounds for considering Denobundoo Day and Dhurmodoss Bose as competent to explain any axiom in Lindley's Elements of Botany, to detect in most instances anomalous structures, and to reduce them to the ordinary type; and to refer in most instances plants to their natural families, giving, at the same time, their probable medicinal or economical properties.

My plans for the next session, from which I anticipate increased benefit, are—

1st.—The organisation of a Botanical Museum, for which the needful space has been allotted.

•2nd.—The completion of an extensive set of diagrams, explanatory of structure.

3rd.—The weekly illustration of the lectures, by the solar microscope presented by Mr. J. W. Grant, Bengal Civil Service.

4th.—The careful preparation of a Manual expressly adapted to Indian students, by having all its illustrations taken from Indian Plants; and by having general principles constantly brought to bear on practical points, such as medical and economical properties.

5th.—The completion of a General Systematic Garden, arranged according to the natural method in the Botanic Garden, to correspond with which there will be a natural medicinal, and a natural economical Garden. By the plan on which these Gardens will be laid out, the three grand divisions of the vegetable kingdom will be seen at once, and their relative numbers and relative importance to the Arts and Sciences, will be also exhibited. In contrast with these, will be presented a Linnæan Garden.

My plans go further, for they embrace the laying out of a garden, in which the Flora of Bengal Proper will be arranged according to the natural method, on the same plan precisely as that of the natural Gardens just enumerated; the whole numbered and referred to in a printed catalogue of the plants in the Botanic Gardens, to be supplied at the Gardens to all who may visit them, for the purpose of acquiring information.

But they do not end here, for Government having wisely recognised the value of practical instruction by insisting on the students visiting these Gardens and on their making botanical excursions, it becomes

the duty of the Superintendent not only to see that these Gardens possess intrinsic means of instruction by possessing systematic Gardens, which, since 1817, they have not had, but to provide for those Botanical excursions by the preparation of a Flora of Lower Bengal, thereby placing in the hands of each student, as well as of those of the amateurs of Calcutta, independent means of determining any plant indigenous to this part of India, and consequently of determining its affinities and properties. Such means are acknowledged to be necessary to the complete organisation of a Botanical class. That great teacher Dr. Lindley prepared one expressly for his own class, because all the Floras of England were arranged by the artificial method. The same is the case with the Flora Indica of Dr. Roxburgh, which is, besides, by the progress of discovery now incomplete; and as the operations of the Medical College extended over India, it would equally become the duty of the Superintendent of these Gardens to prepare a more general Flora of India; therein keeping always in advance of the wants of his class, which would, if he managed properly, still consider itself as his class, though no longer confined within the walls of the College.

It is only by the completion of these things, which would entail pleasant duties, that the great desideratum of a set of men well grounded in Botany diffused over India can be supplied; and considering the very deficient state of our knowledge of the vegetable products of India, even those which contribute largely to the revenue, and the acknowledged importance of a full investigation of the medicinal and economical plants of a country, I can imagine few things more likely to be beneficial to the state at present, than the dissemination of such a set. Each individual would become the investigator of a particular part; there would be laid the groundwork of so many Floras of so many districts; their medicinal and economical products would be explored, the plants that produced them identified, and doubts and difficulties that now encumber Botany would cease. Moreover from the diffusion of physiological knowledge of Botany, its application to Horticulture might lead to considerable improvement among the cultivators of each district.

To ensure so desirable an end, the students, however, require to be put in possession of the means of carrying on their observations after quitting College. It was with the view of supplying an essential part of these means, that I took the liberty of addressing Dewan Ram Comul Sen, on the great advantage that would accrue

from substituting microscopes, for the gold medals he had so liberally presented for a period of three years. I have the pleasure of stating that Dewan Ram Comul Sen was only prevented from adopting this advice, by the fact of the medals having all been struck off. I would venture to suggest that on the part of Government, a microscope and several volumes of standard works should be presented to the two best students among those who are to receive Diplomas. So far as my own class goes, I have reason for believing that a microscope or books would be preferred to medals.

On reviewing the whole business of the course, its popularity with the senior students, their evident aptitude to the acquisition of this kind of knowledge, and the philosophic spirit of some of their remarks, I am urged to express a hope, that the Council of Education may be pleased to recommend to Government the attaching of the best student of this year to these Botanic Gardens, principally for the purpose of opening a School of Instruction in application to Horticulture and Arboriculture, for the Maleses and apprentices, and all natives anxious to acquire such knowledge. The importance of theoretical knowledge in leading directly to the best modes of practice, is now fully acknowledged in Europe; it still remains comparatively unacknowledged in India, and the plan suggested seems to me the best mode of supplying it. The amount of information among Maleses is at its lowest ebb, more especially in these gardens, where they have not the same stimulus of pecuniary profit that many other Maleses have—and so long as they possess only a most confined amount of empirical knowledge, it will be hopeless to expect to get them to adopt improved plans, hopeless to expect extensive propagation of any plants, but those of the most hardy kind. The plan, if found successful, might then be extended to Saharunpore and Bombay, and subsequently to all the Government Gardens in India, either alone, or in conjunction with ordinary employment, as the Government might deem proper."

Mr. Griffith formed in the College the museum of Botany referred to by him in this report containing a splendid collection of botanical drawings and diagrams, and within the College compound a small botanic garden containing specimens of most of the medicinal plants growing in the Government Botanical Garden, where he laid out systematic gardens, and commenced to arrange plants according to the natural method.

When making over charge of his duties to Dr. Wallich, Mr. Griffith communicated another report on the state in which

he left the botanical class. After describing the individual merit of each of his students, he concluded this report with the following remarks:—

“The class throughout the session has conducted itself with great propriety.

“The results I am inclined to consider as more generally satisfactory, than those of last year. I have every reason to believe that the subject (Botany) is in itself popular with the class, upon which I have constantly urged its importance as connected with the vegetable *Materia Medica* of British India, itself an essentially agricultural country.

“The additional experience I have acquired, leads me to believe, that the great object to be gained in the tuition of the class, is to substitute for rote learning the requisite amount of intelligent knowledge. This, I think, can be best done by microscopical exhibitions, by giving the students plants to describe, and by making them represent diagrammatically their ideas of the subjects brought to their notice.

“For obtaining a subsequent practical application of the knowledge gained in the College, the great object of the Institution, I have always pointed out to the students the substantial reward merit is sure of obtaining from the favorable notice of the Council of Education, endeavouring at the same time to arouse the exertions of gratitude in aid of those of self interest.”

From the Medical College Mr. Griffith was sent to the Straits of Malacca in the capacity of Civil Assistant-Surgeon, and there he expired suddenly on the 9th February 1845, in the thirty-fourth year of his age and the thirteenth of his Service in India. The premature and lamented death of this great Botanist was noticed by the College Council in the following graceful terms:—

“The eminence and high scientific reputation of Mr. Griffith; the untiring zeal, energy, and ability with which his duties in the Medical College were conducted; and the creditable proficiency of the students of his class; together with the extremely valuable and beautiful collection of diagrams and drawings, which he prepared for the instruction of his pupils and presented to the College, were such as to entitle him to the

best thanks of the Council, and to render his decease a subject of deep regret, to every one interested in the successful cultivation and dissemination of science in India. It was his intention, had his life been spared, to have prepared a Manual of Botany for the pupils of this College, specially adapted to their wants, and illustrated throughout from his drawings of Indian plants, so as to form not only a complete guide to structural and physiological botany, but to serve in some measure, so far as our present knowledge extends, as a Flora Medica of India. Few were better qualified to do justice to such a subject, and none could have brought a greater degree of energy and ability, or a larger amount of knowledge to the task."

The late Council of Education also recorded that in Mr. Griffith "science in India has been deprived of one of her most eminent and gifted followers, who at an early age had acquired an European reputation of the highest order as a Botanist, and who was unequalled in this country for the extent of his researches, the value and accuracy of his observations, and the devoted earnestness with which his professional duties were performed."

The Governor-General (Lord Hardinge) referred to his death, on the occasion of distributing prizes at the Medical College after the session of 1844-45, in the following terms: "I have heard Dr. Griffith spoken of as a valuable public officer, and his name mentioned in every quarter as that of a man of eminent scientific attainments, and like whom few had ever come to India. His loss, therefore, could not but be matter of the deepest regret, especially in reference to this institution." His death was also mourned by the leading natural historians of his time, with some of whom he maintained a regular correspondence.

It is a matter of regret that the practice of publishing the written questions and the answers of the most successful students in the several branches of study taught in the College, had not come into vogue in the time of Mr. Griffith. We are thus deprived of the means of ascertaining exactly the degree of success with which he imparted knowledge to his pupils out of the vast store he had in his possession. We have, however, ascertained from one of his pupils, the only surviving pupil we are aware of, Babu Buddy Nath Brummo, who has

retired after a long and honorable service of thirty-six years under Government, that the lectures of Mr. Griffith embraced both Elementary or General Botany and Special or Medical Botany. Under the former were treated the structure and physiology of plants, the chief subjects dwelt upon being—general views and definitions of the science, distinction between animal and vegetable life, elementary tissues and organs, compound organs, with especial reference to those of reproduction, which last he had made his particular study. Under the latter (medical botany), after an exposition of the systems of classification, were treated plants admitted into the British Pharmacopœia and those Indian plants which were or appeared to be deserving of being used as medicines, not omitting such other indigenous plants as were important from their yielding articles of food, poisons, substances in the arts, &c. Each natural order was described in detail, and the genera and species successively noticed, the character of each species explained, followed by a brief history of the plant, its native country, and an account of the officinal or otherwise useful substances yielded by it. His lectures, we are told, were so very interesting and impressive that though delivered fifty-three years ago, his pupil has yet a vivid recollection of them. He was not content with merely communicating instructions. His pupils had to explain to him the diagrams of theoretical botany, and to determine the various kinds of plants, and describe their probable medical properties. The amount of enthusiasm he manifested for his subject, and the degree of interest he felt for his students, seem to be uncommon at the present time.

Mr. Griffith bequeathed large collections of plants and manuscripts to the Court of Directors. The principal works left by him were published in Calcutta, after his death, as "Posthumous Works" (1847-1854), including "Palms of British India," one vol. folio; "Notulæ ad Plantas Asiaticas," being miscellaneous observations on Indian plants, three vols. 8 vo.; "Journal of Travels in India," one vol. 8 vo.; "Itinerary Notes," one vol. 8 vo. He also superintended the publication of Mr. Voigt's "Hortus Suburbanus Calcuttensis, or a Catalogue of plants cultivated in the Botanical Gardens of Calcutta and Serampore," but his removal to Malacca, and his sudden death there

prevented his preparing a review of the work, which with the indexes and other parts necessary to its publication, he had undertaken to furnish. The preface to Voigt's Catalogue contains certain remarks of Mr. Griffith about the merits and publication of this work, but they had been left by the writer in an incomplete state.

To commemorate the services to India of this distinguished professor of Botany, a mural tablet has been placed in the great theatre of the institution where his zeal and ability as a teacher were most manifest. His untimely death prevented the preparation of a good text-book of Indian Botany on which he designed to engage himself. In 1849 Dr. Falconer also had announced that such a work was in progress, but it never saw the light. The only books we now have on the subject are Oliver's *First Book of Indian Botany* published in 1869, and Gregg's *Text-Book of Indian Botany*. Besides these there are numerous works, monographs and essays on the Indian Flora, and *Illustrations of Indian Botany* excellent so far as they go, "but most of them," as Mr. Oliver states, "either apply to the botany of a limited area, or are incomplete or out of date." So we are still in want of a good general work on the Botany of India. Who is better fitted to execute such a work than Dr. King? But will he deem it worth his while to do it? We know he will have to divert a considerable portion of his time and attention from original research, for the purpose, but we can assure him he will confer a boon upon the Indian student by supplying the desideratum.

Mr. Griffith's other plans for the benefit not only of his own students, but of amateurs and of all persons anxious to acquire a knowledge of plants, also died with him. One of his objects, namely, the exploration of the economic products of the country, has since been gained to a certain extent by the formation of the Economic Museum, and an attempt has been made to diffuse a knowledge of Botany by the inclusion of it in the curriculum of the Calcutta University, as one of the optional subjects for examination for the degrees of B.A. and M.A.; but there is no special provision, so far as we are aware of, in any of the affiliated Colleges for imparting a practical knowledge of Botany. The Medical College is the only institution in which this subject is

systematically taught, and in which examination in it is compulsory; but the course has been considerably curtailed. The subject is now confined to "elementary Anatomy, Histology and Physiology of flowering plants; the principles of Hooker and Bentham's system of classification, and a detailed account of eight natural orders, which are specially important in Bengal," and which are selected from time to time by the Syndicate of the University. Two courses of lectures are still required for the M.B. degree, but, owing perhaps to the addition of certain auxiliary branches as separate subjects, such as Hygiene, Comparative Anatomy, Physiology and Zoology, to the subjects in which medical students were examined in the time of Mr. Griffith, the number of lectures for each course of Botany has been reduced from seventy to twenty only.

We cannot conclude this article without making a sad remark. We have said that Botany has all along been and is still being taught by masters of the science, who have advanced and are advancing it by patient original investigations. All the professors, without exception, from Dr. Wallich to Dr. King, were and are men of the liveliest sympathies, taking the kindest interest in the welfare and progress of their pupils, but the melancholy fact remains that up to the present day not a single student has been found to follow in the footsteps of these great masters, to catch the contagion of their spirit of research, and to pursue the most lovely of all the sciences after the close of their college career. Upwards of half a century, indeed, no less than six decades, have elapsed since the medical college in Calcutta was established, and its graduates have spread all over India, either in government service or as independent practitioners. Is it not strange that none of these men were attracted to the flora of the parts of the country in which their lots were cast, in which the best portions of their lives were spent?

Of all studies the study of plants is the least expensive and the most charming. Unlike the study of animals, the study of plants does not entail any unpleasantness in the shape of ugly dissections or cruel experiments, and therefore does not touch the most delicate susceptibilities of any one who may take to it. Not only is Botany the most attractive, it is, in one sense, the most useful of the sciences. Plants furnish directly and indirect-

ly food to all animals, medicines for their diseases, and materials for our other necessities and comforts. The treasure is inexhaustible, and it is our persuasion that we have utilized only a very small portion of it. We are sanguine that by a diligent cultivation of the science even famines may be made impossible in the future. The utility of the science to a country like ours, which is essentially agricultural, must be evident to all. Should such a science be neglected by our countrymen? Some enterprise is noticeable in the direction of horticulture, notably in the case of Messrs. S. P. Chatterjea & Co. But it is a pity such enterprises are not under scientific guidance. It is not the spirit of trade, but the spirit of science, which will advance the real interests of the country.

STRAY LEAVES FROM THE DIARY OF AN INDIAN PHYSICIAN.

I see, Mr. Editor, your Journal has fallen into arrears. This, I am sorry to learn, is due to your continued illness for some time past. But even without this cause, no one should have been surprised at your state of arrears, considering that you have to work single-handed. You have been crying for help ever since you commenced the Journal, but with few honorable exceptions you have received but very little. It might have been expected that with the increase of the number of practitioners who adopt the Hahnemannian system both in the metropolis and throughout India, the number of your collaborateurs would increase, but the fact has been otherwise. I am both sorry and ashamed to see that you scarcely get any help. As your object is purely the furtherance of the cause of medical reform your colleagues should have considered it their duty to co-operate with you. But they seem to be forgetful of the debt they owe to the profession. I have not been of much service to you, and I have no hope of ever being of any substantial service to you. If the few extracts from my diary that I place at your disposal be deemed worthy of a place in your Journal, I shall deem myself fortunate as having discharged a duty.

Importance of keeping Diaries.

The importance of keeping a diary, or a record of one's experiences, is so obvious that I need not dilate upon it. It is important to every man who has the faculty of thinking and observing, to every man who is not an idiot. Even the illiterate should not neglect it. If they cannot write themselves they should ask others to write out for them. Let them dictate to scribes what they observe and think and feel, and the result will be something which will be remarkable, even something which will benefit and revolutionize the world. Have we not in this way got a system of administration which may be of use to the modern statesman? Have we not in this way got a religion which has most pre-eminently preached the Unity of the Creator, and made converts of a very large portion of the human race?

The early literature of our race was for a long, very long period *unwritten*, having been transmitted from generation to generation through memory. Our own Vedas, perhaps the earliest out-pourings of the Aryan mind, have come down to us in this way. Compared to the age of man, writing is a recent invention. It has, of all things, given the greatest impetus to intellectual development, by preserving the products of mental energies. It is not, however, the creator of intelligence. Intelligence, especially when largely developed, can do without it, as it did in the infancy of mankind. Let not the unlettered despair of being of intellectual service to society. In some respects they possess an advantage over their lettered brethren. Having almost nothing to do with bookish knowledge there is greater chance of the play of originality with them. Their thoughts and sentiments and feelings will have the freshness of direct inspiration from the world within and the world without. Such thoughts and sentiments and feelings when recorded will be of immense benefit to mankind.

It will be long before reading and writing will become universal. Therefore, what I have said is more for the encouragement of those whose circumstances have precluded them from having those accomplishments than for the discouragement of letters. Many a genius is wasted from the idea that the man who has not learned to read and write is absolutely worthless. This is a mischievous error and ought to be exploded.

But with the advance of our race letters are becoming more and more indispensable, and no man ought to neglect them. It is by keeping records of his doings, that man is advancing in such rapid strides. Memory is too short for the ever increasing stock of knowledge, which would be lost if not preserved in writing. It is wonderful to see how even mediocre intellects advance in knowledge by keeping systematic records of what they observe and read, and beat their more gifted brethren who, in over-confidence of their powers, neglect this most potent means of advancement.

But there cannot be the slightest question, however, that though we may have, as we had, much and solid contribution to literature and philosophy and religion from the unlettered, we can expect very little if any contribution from them to science as understood in the present day. There must be scrupulous, faithful, and continual recording of facts derived from simple or experimental observation, or both, before any advance, any the smallest discovery, can be made in science. No observer, no experimenter, in the fields of science, however gifted, ought to trust to his memory alone for the accumulation of facts necessary to draw inferences from; far less ought he to trust mere scribes for the record of the results of his observations. He must be continually pondering and reflecting over them in order to turn them to account, and he cannot do this unless he is himself his own scribe.

• I think sufficient has been said to show the importance of keeping diaries or records of one's experiences. As experiences are necessarily very varied in character, it must be obvious that in order to make them useful, some method should be adopted in recording them. And the best method I can think of is to have "heads" under which the subjects that come under observation may be thrown, and then we shall soon find that our observations, instead of being desultory, will become systematic, subjects will "gravitate" to their natural places, and in the course of even a short time we shall have a body of record which will be surprising to even ourselves.*

* Prof. Max Müller has given among others the following advice to the students of Manchester College which is worth bearing in mind by all students, and we are all of us students all our life :

The Medical Man's opportunities.

These observations apply with particular force to members of our profession, and while penning these lines, I am reminded, Mr. Editor, of what you yourself wrote when early in your career as journalist you had to make an "apology" for falling into a slight arrear and a "call" for help to be extricated from this most unpleasant of things for a journalist. As what you wrote so far back as May 1868 is quite apposite to my purpose, I will take the liberty of quoting them here.

"But it is not a little surprising," you said, "that since we first started in this new career, we have not had a single contribution from our professional brethren. It cannot be that there is any lack of material, considering the number of laborers in the field. We believe materials are abundant. To make them useful, they have only to be recorded and systematized."

"To the student of medicine, Nature presents the most varied and varying aspects. Each case of even the same species of disease has some features peculiar enough to stamp upon it the character of a new form—and to be made a subject of special study by an observing mind. If we take even the

"And remember, while nothing will prove more useful for life than this early survey of the vast intellectual battle-fields of mankind, before you begin to specialise your work, the time will come when your memory becomes weak and untrustworthy. If what you once knew does not vanish altogether, it does not always come when you call for it, just as when you meet a person, you may know all about him, but you do not know his name—at least, not at the time when you wish to inquire after the health of his wife.

"I know no remedy against this, but as the last piece of advice, I should like to show you what I have done myself to guard against the inevitable misfortune of a fading memory. I have, particularly in my younger days, accustomed myself to work on slips. While reading any book I just noted down on small slips of paper whatever seemed to me likely to be of any importance: whether a single word, or a name, or a subject. These slips were thrown into a basket, and after a time, they were sorted out and arranged alphabetically, and pasted in a book. The difficulty is, of course, to distinguish between what is important and what is not—that is, in fact, the great difficulty which follows us through life, and is almost always the secret of success or failure in scientific and literary work. Another difficulty is to find out the right word (das Schlagwort) under which some important information should be entered. I have brought you one of my books. You see it is very old, and to judge from my Sanskrit calligraphy, I should say, it must be nearly fifty years old. Yet even now I often get some useful information from these books—nay, I am sometimes amazed to see how much I knew, and alas, how much I have forgotten."

ordinary intermittent fever and cholera, we shall find that cases of each of these diseases, far from being alike, as commonly supposed, always present something new to engage the attention. Such peculiarities, recorded and studied, no doubt can afford important lessons both in a nosological and in a therapeutical point of view. Practitioners have therefore to note down their cases, and at the end of even a short time they will find that they have made important acquisitions in their knowledge of disease and its treatment; and these, when published, will serve for common benefit.

“In fact, the student of medicine cannot open his eyes without meeting with something which is worth being put on record. All knowledge has bearing upon his special calling. The health of man is conditioned and influenced by every thing around him. Nothing is, therefore, too low, nothing too high for him to observe and study. His peculiar training affords him facilities for intelligently observing the objects and the phenomena of nature, more than the training required in any other profession. And it would be a dereliction of duty if he neglects to avail himself of the uncommonly ample opportunities at his command for his own benefit as well as for the benefit of others. He ought to be proud that science is almost his monopoly. The fact of the greatest scientific men of the day being nearly all either medical men, or men who commenced their education as such, ought to stir his inmost soul. Every student of medicine need not confine his attention exclusively to disease. Indexhaustible fields of knowledge are open before him, and he is at liberty to choose any one of them for his special study.

“In his intercourse with his fellow men he can study the peculiar features presented by each with reference to the diseases to which he is subject, to his moral and intellectual character, and to the variety of the race he belongs to, and thus he is enabled to lay the foundation of the physiognomical diagnosis of disease, of a rational system of phrenology, and of ethnology. In his intercourse with the brute creation he can study the diseases each class, each genus, each species is subject to, the course these diseases run, the means they instinctively adopt for their removal, and thus he can lay the foundation

of comparative medicine; he can further study the peculiarities of their physical and mental organization, the variations they present under domestication as well as under purely natural perturbing influences, and can thus help in the solution of the much vexed problem of the origin of species. And so in his mute companionship with the vegetable kingdom and with inorganic nature, he can, if he choose, sow the seeds of important and even new departments of knowledge.

"The physical aspect of the globe is undergoing slow but positive changes under the influence of art and progress of civilization. He ought to watch as to whether these changes are beneficial or prejudicial to health; if the latter, he ought to devise measures by which they can be remedied. Of course we cannot think of arresting the natural evolution of things, but we ought to be able to counteract the evils which are calculated to follow in its train."

In the above observations you have fairly indicated the variety of contributions to knowledge which a member of our profession can easily make, if he will only not sleep over his opportunities, if he will keep his eyes open and simply observe and systematically record what comes in his way. In your maturer experience you will, no doubt, admit that this variety may be made more various. As one instance out of many I would supplement what you have pointed out by making one observation.

I think it must be admitted, that the study of children has been sadly neglected. What we, as medical men, have done, is to study their diseases. We have scarcely done anything more. Other than medical observers have done almost nothing. Children have been used and played with as pets, and casual notices of their peculiarities have been taken, but have never been turned to serious account, and indeed such notices as we have are not of any scientific value. But of the importance of the study of children, no sane man can doubt. As the earliest state of the highest form of animal life in the world, the study of childhood deserves the closest attention of the biologist. As the dawn which leads to the brightest unfolding of intelligence and morals, or the darkest development of sin and perversity, its study must be of peculiar interest to the psychologist, to the moralist, to the philologist, to the educationist, and even to the statesman.

Indeed, if we would but use our eyes we may see mirrored forth in child-life in its varied manifestations the past history of our race and even of the whole vertebrate sub-kingdom. And as children are the future actors on the stage of their country, it is not impossible to forecast the future of that country by observation of the mode in which they are reared. I hope to be pardoned by my countrymen if, from the spirit of insubordination that I find is growing up in our children, fostered by the weakness of parents and the spirit of trade but too visible in the management of private schools, I am led to entertain gloomy forebodings of our country. Unless parents and school masters are prepared to exercise spartan discipline over their charge, our country is lost for ever. The medical man, of all men, has the best opportunity of studying the physical and mental development of children and of giving the best advice to all concerned.

Having said my say about the importance of keeping diaries, I must make a clean breast to you as regards the diary from which I am going to give you a few stray leaves. You should not expect from me any thing like what you or I have suggested. Though I should have, yet in point of fact I have not, kept my diary for the high purpose of enriching any of the branches of knowledge which it is in the province of medical men to advance. My diary was kept with scarcely any definite object whatever. Men and manners and passing events were noticed as a matter of course, without any thought of utilizing the record for any purpose. And it would never have seen the light were it not for my anxiety to help you in your present difficulty.

Your readers are sure to be disappointed if they expect anything even faintly approaching the excellent, artistic delineation of "incident and sentiment" in the celebrated "Passages from the Diary of a late Physician." I cannot say that "instances of noble, though unostentatious heroism—of calm and patient fortitude, under the most intolerable anguish that can wring and torture these poor bodies of ours," of "appalling combinations of moral and physical wretchedness, laying prostrate the proudest energies of humanity," of "diversified manifestations of character," of "singular and touching passages of domestic history," have not come under my observation during a practice of forty years and a life of three score,—indeed such instances are, as you yourself can

testify, not uncommon in our country. But I must confess that I lack the power of pen possessed by my great predecessor to do justice to all that I have observed. I shall endeavour to present my experiences in such homely language as one, writing in a foreign tongue, can command, and shall feel myself amply rewarded if I will not be considered by your readers to be absolutely dull and not worth listening to.

The Diarist's nativity and Astrology.

As the term Indian may mean any nationality, any race, any creed, that has existence in India, and Indian physician may mean any one who has been practising the healing art, in India if not life long, at least for a length of time to entitle him to speak with authority on Indian diseases, I should so far reveal myself that I am a native of Bengal, and a Hindu by birth.

Nativity is a factor which exercises a considerable influence over the course of a man's life. Nativity itself is a product of several factors.

In its widest, astrological sense, it means not only the place and time of birth, but the position with respect to each other of the heavenly bodies at the time of birth. And the astrologer is so thoroughly imbued with the supreme influence of these heavenly bodies on the course of life in our world that he professes or rather pretends to forecast the destiny of man simply from a knowledge of the aspects of these bodies at the time of his delivery from the womb.

It is not a little singular that the heavenly bodies should begin to exercise their influence over living beings just from or at the times of their birth. If they have any influence, that influence ought to be felt at the moment of conception, and logically at the first appearance of the primeval protoplasm from which all living beings have, according to the latest theory of science, proceeded.

Some astrologers are bold or audacious enough to admit this, and would venture to cast the horoscope of the son and even of the grandson from the nativity of the father and of the grandfather.

Admitting that the heavenly bodies have the influence that is claimed for them, and that therefore astrology may be a legitimate science, let us think seriously of the number of observations

that would be necessary to raise it to that position, which its votaries believe it to have attained.

It is true that astrology has been cultivated for thousands of years. I leave your readers to judge if even thousands of years would suffice to furnish the necessary data which will enable the astrologer to make the minute calculations he has to make of the courses of events which will happen in the lives not only of individual men but of nations, down to the minutest detail of every day occurrence.

If this were possible, that is, if from a knowledge of the relative positions of the heavenly bodies, or rather of a few planets and stars, at the birth of an individual, one could predict all the various incidents of his life to the day and the hour of their occurrence including that of his exit from this world, then astrology would be of incalculable benefit to the physician in enabling him to make a correct diagnosis and, what is of greater importance, a correct prognosis. And I was seriously advised by an educated and enlightened friend to study the science for the purpose! But I could not persuade myself to believe that astrology is or will ever become a science.

It is far from pleasant to contemplate what a mighty hold astrology still has upon our countrymen, how it hampers them in almost every act of their lives. Not only great ceremonies, such as worship of the gods, wedding, naming of infants, undertaking of long journeys, laying the foundation of dwelling or other houses or structures, first entry into them, digging of tanks, &c., but such simple and necessary acts as taking food and particular kinds of food, even taking medicine, must have their times regulated by the almanack. And this is being done every day by every Hindu notwithstanding the serious inconvenience to which such procedure often leads. To realize its absurdity we have only to fancy what the consequences would be if railway trains had to be started by constant references to the almanack.

There is another point which is worth considering, and that is that up to a very recent time astrologers were dealing with only a few planets and a few stars which could be seen with the naked eye. What of the numerous other planets and their satellites which the telescope has discovered, and of the innumerable other stars which even the naked eye can descry in the heavens, and

others which the telescope has revealed? Have they no influence? To deny this would be to shake the very foundations of astrology as a science. To admit it would be to admit that the calculations already made since the birth of the science must have been very imperfect and necessarily inaccurate.

Modern astrologers have felt this difficulty of their position, and have attempted to escape from it by taking in some of the new planets and ascribing to them influences for which, so far as we can see, no reason has been assigned.

Hence, in taking account of the influence of nativity on man's constitution, physical and mental, we must leave out the heavenly bodies as factors whose influence, if such exists, cannot be determined in the present state of our knowledge. We must confine ourselves to the mundane factors—place of birth and the immediate surroundings.

I must not be understood to deny that the heavenly bodies have any influence on our planet and all that are therein. As members of a harmonious system, which they have now been demonstrated to be, they must act and re-act upon each other. We know for certain that the moon and the sun do exert a most powerful influence upon the waters of our seas, upon our magnetism, upon our life and health, and what else have yet to be determined. This positive fact leads us to suspect that the other heavenly bodies, at least those of our own solar system, the planets and the comets, cannot be mere idle wanderers without exerting some influence upon the earth and all that it contains. We, of course, do not as yet know what that influence is, but that it is worth ascertaining for each of those bodies by patient observation, no man of science ought to deny. These influences of the heavenly bodies, so far as observed, are physical, and who knows but that through the physical they may not be psychical also. What I maintain with respect to the claims and pretensions of astrology is, that they have not been established, and are not likely to be established for centuries to come, if even then. Bacon, though a Ptolemaist, did "not hesitate to reject as an idle superstition the doctrine of horoscopes and the distribution of houses; which is the very delight of astrology, and has held a sort of Bacchanalian revelry in the heavenly regions."

VACCINATION : ITS AFTER EFFECTS.

· BY DR. HURRO NAUTH ROY, L.M.S. ·

When vaccination was first introduced into this country, there was great opposition from the Hindus, for two reasons, first, because the *virus* was obtained from the cow; and secondly, because inoculation, which had prevailed here from time immemorial, was believed to be sufficiently protective. Government, however, enforced vaccination by law, and now there is hardly one in a hundred children above one year who is not vaccinated. Vaccination has, indeed, one advantage over inoculation, and that is, that it causes but a slight fever, and is not generally attended with painful and long-lasting eruptions which culminate in bodily disfigurement; and were it as protective as inoculation, and did not lead to remote consequences of a serious nature, not a voice would have been raised in its condemnation. But it is an established fact that little children continue to be sickly for a long time after vaccination, and in the generality of cases contract such diseases as baffle the best attempt of the healing art.

It is well known that in Europe for some centuries small-pox was the most dreaded of all diseases. The first step that was taken in the direction of its mitigation and prevention, was *inoculation*, which process was imported from Constantinople by Lady Mary Wortley Montagu. For a long time it had such a hold upon the people, that they did not think of any substitute. The general belief of the medical profession kept pace also with the current of public opinion, and was expressed in these words:—"Inoculation for the small-pox seems to be so well understood, that there is very little need for a substitute."

Dr. Edward Jenner, a young physician in Gloucestershire, in June 1798, discovered a substitute for inoculation, and Drs. Pearson and Woodville, two of his contemporaries and associates in the work; brought it out into prominence as a better protective than inoculation, and published the fruits of their researches and observations, in November 1798, in a work, entitled,—"*An Inquiry concerning the history of the Cow-pox.*" That vaccination did greatly reduce the prevalence of and consequently the mortality from small-pox, in the early years of its introduction into practice, cannot be doubted. It was thought to be at one time an improvement upon its predecessor, inoculation. But

that its power of protection is gradually becoming less effective, is evident from the necessity of re-vaccination, at intervals of a few years. So that vaccination, which was for many years considered as an acquisition to humanity, and a sure protective of small-pox, has now reached a stage which is seriously damaging. "No one can give a guarantee that the vaccine which he injects into the human system is absolutely free from taint. Therefore, he has no moral right, and should not have any legal right, to run the risk of rendering any member of the human family miserable under the plea of guarding him against another disease which may not be half as bad as the one he has transmitted." This is the view of the "Medical Investigator," and we think it is the right view, and the vaccination department and our legislators ought to take note of it.

The ordinary vaccine, it appears, by passing through so many generations of mankind, has become diluted, and not only diluted but adulterated. The dilution is proved by the fact that re-vaccination is now insisted on almost as much as vaccination itself; and the adulteration is proved by the fact that other diseases besides cow-pox are produced by it. That ill-effects do, from time to time, follow the common vaccination of the present day, is, we think, now generally admitted. Even Sir Thomas Watson, who is an out and out advocate of vaccination, admits, that "there were instances of the loathsome of all diseases being conveyed by it." It may be said that early vaccination was sometimes followed, as in case of early inoculation, by severe disease, and even occasionally by death. That is true, but then it was the disease of small-pox, or if it is preferred to call it so, the disease of cow-pox. Now such attacks are not witnessed; if serious disease follows modern vaccination, it is some disease different from cow-pox. Medical men of eminence, devoted to scientific pursuits, who have made a mark in the field of original research, should come forward to decide by facts and figures whether this alarming state of things is connected with vaccination, and what measures are to be adopted to avert it? Their investigation should be directed towards the solution of the two following questions:—

1. Does vaccination afford protection against small-pox?
2. Is vaccination attended with serious after consequences?

Love of truth and impartiality ought to be the essential guides of those who should take an interest in the solution of the above questions. Unfortunately our modern scientific men are fond of distorting facts to support their pet theories. If, however, the inquiry be pushed on with a spirit of earnestness and love of truth, the solution of the questions proposed above would be within easy reach, and would be attended with incalculable benefit to mankind. If it be proved that vaccination is very pernicious in its immediate or remote effects, it must be discontinued altogether, or else some means must be devised to counteract its evil influences.

Every thing human is in a state of transition. We know in part only, and wisdom consists in always trying to know more and more. Any legislation, which practically bars the progress of human knowledge, is a mistake, and it is true philanthropy to endeavour to have such legislation corrected. It seems to us that compulsory vaccination is a mistake of this kind. Our knowledge of the prevention as well as of the cure of diseases, is yet quite in its infancy. In regard to the prevention of small-pox we all know that the first step in this direction was the adoption of the process of inoculation. The second step was vaccination. It is, therefore, quite within the prospects of the future, as knowledge advances, that, in another ten or fifteen years vaccination may also be forbidden by Act of the legislature and replaced by some other more effective and less harmful method. It is now a fact that vaccination vitiates the blood, and makes the system quite pervious to the inroads of a host of malignant and incurable diseases. That vaccination does not afford the protection against small-pox that is claimed for it, was sufficiently proved by the last small-pox epidemic which raged so virulently in Calcutta in the year 1895.

It spared neither the inoculated nor the vaccinated, but the proportion was by far greater of the vaccinated than of the inoculated, and those even who were re-vaccinated did not escape from the attack. It committed extensive ravages in the mansions of the rich as well as in the humble cottages of the poor. The middle-class men also suffered sorely from the brunt of its attack. The mortality was very heavy, and indigent people who were ill-clad, ill-housed and ill-fed had the largest share of it.

It is our belief, and observation and experience have confirmed the belief, that cleaner houses, fresher air, and purer water, aided by the internal administration of one dose of *variolin*, repeated in the course of a week, during the prevalence of the epidemic, had as much to do with the prevention of small-pox as vaccination itself, if indeed they were not more efficacious. If this be so, how wise would it be for Governments to promote sanitary improvements. By perseverance in this course, not only small-pox but other destructive diseases may be prevented.

If it be asked, what is to be done to prevent small-pox when vaccination has proved inoperative, the answer is, and should be, that vaccination should, for the present, be continued, and the establishments for its effective performance maintained till a better substitute be found in its place. The old vaccine, however, should be abandoned, and a new start made with fresh vaccine obtained by inoculating the cow with small-pox lymph, care being taken not to make more than one, or at the most, two punctures, until several removes have been reached. This method was practised by Mr. Ceely and Mr. Badcock, and the method seems to be a feasible one, as the vaccine retains its identity with small-pox without losing its protecting power. But the precautions which Jenner and his immediate followers carefully observed, must not be neglected.

The diseases that follow vaccination are manifold and most appalling. The disease, that heads the list, is infantile liver which resists every mode of treatment in vogue and ends at last fatally. Infantile liver has become so common a disease in Bengal, and of such a malignant character, that the very mention of its name produces a thrill of shudder in the hearts of parents and all lovers of children. Very few vaccinated children have been found to escape from the disease. The enlargement of liver is at first slight. It attains its full size in three or four months, and occupies nearly the whole space of the abdomen and descends upon the crest of the ilium just like a *bleestee's* bag. The enlargement has generally a stony feel. Occasionally the liver is fatty. The enlargement is followed by jaundice and dropsy. This state of things goes on for a month or so, at the end of which biliary coma supervenes and death closes the scene.

It should be mentioned in this connection, that the blowing

process (Phuka) practised upon cows by milkmen of this city for drawing a profusion of milk is an auxiliary cause of infantile liver. Apart from the physical and chemical characters of such milk, the psychic influence of the cow under such painful process acts very injuriously upon the health of children. The specific gravity of ordinary milk varies from 1028 to 1031, but the specific gravity of milk obtained by the blowing or phuka process is generally higher, and it is richer in fat globules, and consequently hard of digestion. Little children cannot easily assimilate it. The cream of pure milk is yellow, but the cream of the phuka milk has a bluish tinge and is surrounded by a blue ring. The infantile liver is generally attended with remittent or intermittent fever. When vaccination is followed by remittent fever, with or without the enlargement of the liver, the fever proves malignant, and ends fatally.

Enlargement of glands, with or without fever of a remittent type, is also a common occurrence in children after vaccination. I have at present under my treatment a case of this type. The accession of the fever generally takes place at night, and the temperature, which used to rise when the child was under allopathic treatment from 103° to 104° , now ranges between 98.6° and 98.8° . The fever is persistent. While under allopathic treatment, the child had such an obstinate constipation that the enema was used daily for one blessed month to unload the bowels. Now the child passes healthy formed stools daily, or every other day, with the help of homœopathic medicines only, and without any other extraneous help. The child was under allopathic treatment for 3 months, and is under homœopathic treatment for 20 days. There is improvement in the temperature, the crown of the child's head which before used to be hot like fire is now a little above par, he perspires and the skin is moist. The fever persists though in a mitigated form. All this homœopathy has done, but it gives no satisfaction to the anxious father, who is a member of the bar, and who belongs to a very respectable family of this city. People can wait patiently for months and months under allopathic treatment, but when they take to homœopathy, they become at once impatient, and give no rest to the attending homœopathic physician. There is no knowing how long this state of things will continue, and when

will homœopathy be properly appreciated by the people. I should here mention that the enlargement of the glands in this case had disappeared under the previous allopathic treatment.

Eczema, especially *eczema capitis*, is another disease which follows vaccination. I had a case of this nature under my treatment. When the case was brought to me I was startled at the awful sight of the patient. On enquiry I found that vaccination was at the root of the complaint, and so I directed the father of the patient to seek the medical aid of the superintendent of vaccination of the Northern Division. The father did so, but was advised to place the child under my treatment. The child got well in the course of twenty-three days. In this case the lymph with which the child was vaccinated had been obtained directly from another child, and the eczema, therefore, was evidently a communicated one.

Thus we see that vaccination is not only a cause of very many disorders, but is a communicator of foul and loathsome diseases. Otorrhœa is another complaint which is generally met with as a sequence of vaccination. It affects both ears, and is of a very obstinate nature. Vaccination has been found also to prepare the body for the inroads of phthisis and scrofula. Lastly, abscesses in crops make their appearance on several parts of the body after vaccination, and if they are opened when big and ripe, or if they burst, they take a long time to heal.

These are some of the immediate and remote consequences of vaccination, which have come under my observation. Other physicians might have noticed in their practice other after effects of it. I doubt not, Mr. Editor, you will be glad to hear more on the subject from them.

THE PLAGUE IN BOMBAY.

From the following table, giving the numbers of new cases and of deaths day by day for the months of November and December, it will be seen that Plague has got a firm footing in Bombay. It is no longer confined to the district of Mandvi in which it first showed itself, but has spread to other parts of the city, to Bhuleswar, Byculla, Girgaum, Parel, and Mahim, in each of which the numbers of cases and of deaths are increasing.

NOVEMBER 1896.			DECEMBER 1896.	
Dates.	Number of New Cases.	Number of Deaths.	Number of New Cases.	Number of Deaths.
1st ...	21	18	19	11
2nd ...	6	10	28	20
3rd ...	8	5	21	20
4th ...	13	10	43	23
5th ...	10	9	35	16
6th ...	5	3	71	56
7th ...	11	7		
8th ...	10	13	55	37
9th ...	12	5	42	30
10th ...	10	10	49	41
11th ...	4	10	51	37
12th ...	10	4	51	35
13th ...	9	9	102	89
14th ...	9	6		
15th ...	11	5	46	29
16th ...	12	10	44	29
17th ...	11	7	59	36
18th ...	20	11	67	30
19th ...	12	9	33	36
20th ...	16	13	33	36
21st ...	21	24	93	54
22nd ...	6	8	66	40
23rd ...	13	11	83	37
24th ...	14	10	75	65
25th ...	16	14	46	49
26th ...	11	6	65	53
27th ...	11	6	73	56
28th ...	14	12	95	70
29th ...	.....	.....	82	60
30th ...	.....	.....	87	57
31st ...	.....	.....	73	46
Total ...	326	265	1,689	1,198

The number of cases from the beginning of October, when regular records were begun to be kept, to the end of December has, according to official accounts, come up to 2430, and of deaths to 1771. This is exclusive of the number of cases and of deaths that took place in September and perhaps also in the

latter end of August. If we take a rough estimate of these numbers at 300 and 250, then the numbers to end of December would be about 2,700 and 2,000 respectively.

The worst feature of the epidemic is that it is not confined to Bombay city, but has spread beyond. We do not hear any more of it in Ahmedabad, but it has declared itself in a severe form in Karachi where it is reported to be increasing. From the commencement of the outbreak to the 31st December, the total number of cases recorded is 63, and of deaths 59. So that in proportion to the population the mortality is very heavy.

The spread of the plague outside Bombay is due no doubt to the daily emigrations that are taking place from the city, some of the emigrants carrying the germs of the disease in their persons or in their effects. By the 15th December it was reported that a lakh of persons had left Bombay; by the end of the month fifty thousand in all probability have been added to the number.

FINANCIAL POSITION OF THE LATE INTERNATIONAL HOMŒOPATHIC CONGRESS.

We feel it our duty to draw the attention of our readers to the following letters of Dr. Hughes which appeared in the *Monthly Homœopathic Review* and the *Homœopathic World* for September and November. We scarcely know what inference to draw from the facts which Dr. Hughes has been compelled by sheer necessity to make public. In 1881 there were 138 subscribers to the Congress fund, in 1896 there were only 103. So that in fifteen years there has been an actual falling off of thirty, who should have deemed it a privilege to provide for the expenses of a most important gathering which met on their own soil. Again, in 1881 enough subscriptions came in to defray the cost of publishing the Transactions. In the present year when at least 300 names were required with the paltry subscription of 10s. each to meet the publication cost, the General Secretary has only 90 names on his list. Are we to believe that the number of practitioners, who believe in the truth of the homœopathic system, has so seriously decreased in the British Isles? Or, which is perhaps worse, has the enthusiasm of homœopathic practitioners for the spread and advancement of homœopathy, which was such a marked feature in the early years of the introduction of the system in England, cooled down to a state bordering on apathy and indifference? We hope neither of the above suppositions represents the fact, and that Dr. Hughes' appeal has already met with a warm response. And we hope too that it will not fall on deaf Indian ears. No one, who has the slightest regard for homœopathy, which means the brightest and most beneficent

truth in medicine, ought to grudge the trifling sum of ten or fifteen shillings for the possession of a copy of the Transactions of our latest Congress.

GENTLEMEN,—Will you allow me, through your pages, to call the attention of our colleagues to the subscription list which has been opened for the *Transactions* of the late International Homœopathic Congress? At the British Congress of 1894 and 1895 it was agreed that, while the expenses of the meeting were to be defrayed by the practitioners of the country in which it was held, those of printing the Transactions should be met, as in 1881, by a subscription from those desirous of possessing the volume. Its cost is estimated at ten shillings. I shall be glad to receive the names and addresses of subscribers not already given to Mr. Dudley Wright at the Congress. A postal order for the price may be sent therewith, or it will be applied for when the volume is ready for distribution.

I am, Gentlemen, yours faithfully,
 RICHARD HUGHES.

August 13th, 1896.

GENTLEMEN. Will you allow me to bring before our colleagues the financial position of the late Congress?

In 1881 an appeal for guinea subscriptions towards expenses brought responses from 131 homœopathic practitioners, besides 7 from chemists and other friends of our cause, making a total amount of £183 3s. We were able to meet all needs and to hand over a balance towards the cost of publishing the Transactions.

Anticipating a similar response this year, we fixed the subscription at the same amount. Only 108 of our men, however, have availed themselves of the privilege of providing for the expenses of the Congress of 1896, and no extra donations have been made. The result is that (as you announced last month), only £113 8s. has been received by the treasurer, while the outlay he has had to meet amounted to £119 7s. 8d., leaving the Congress £5 19s. 4d. in his debt. I trust that some half dozen of those who have not hitherto subscribed will do so now without delay, and enable us to square our accounts.

I would also say a few words about the Transactions. Very little response has been made to my appeal for subscriptions which you kindly inserted two months ago, and which has appeared also in the *Homœopathic World* and two of the leading American journals. I have at the present date only about 90 names on my list, while 300 at least will be required to defray the expenses of printing. I hope that all whose eye this may meet will come forward, if they have not already done so, with a subscription. The volume is nearly through the press and may be expected in November.

I am, Gentlemen, yours very faithfully,
 BRIGHTON, October 19, 1896. RICHARD HUGHES.

EDITOR'S NOTES.

Electric Annealing of Gold.

AT an ordinary meeting of the Odontological Society of Great Britain held on the 7th December 1896, M. Poinsoot read a communication dealing with electric annealing of gold. He submitted gold foils to action of an electric current growing progressively from 0 to 2.5 amperes, the operation lasting half a minute. By this method the metal retains all the softness and malleability of non-cohesive gold, but yet possesses to a superlative degree the properties of the cohesive gold. —*Lancet*, 12th Dec., 1896.

The Sale of American Diplomas.

Our magistrates are occasionally disposed to treat seriously the alleged possession of American diplomas. If they would consult the best American teachers and practitioners they would hesitate to attach the slightest importance to such pretensions, knowing how numerous are the institutions in the States that give diplomas practically without education or examination. The *Medical Record of New York* of Nov. 21st says: "The Wisconsin Eclectic Medical College is still offering diplomas to practising physicians at much reduced rates, 35 dollars, all inclusive." The prospectus states that they come "as a boon and a blessing" to those who have hitherto practised medicine illegally. It is due to the many respectable medical schools in the States, which are making efforts to raise the standard of education, to expose all such institutions as make a low trade in diplomas. The misfortune is that there is no central power in the United States to suppress and punish colleges which so prostitute their functions. —*Lancet*, 12th Dec., 1896.

Ferrum Picricum in Hypertrophy of the Prostrate.

From an abstract of a paper by Mr. Dudley Wright, published in the Journal of the British Homœopathic Society, we find that Mr. Wright has discovered "in this drug a means of not only improving the general health, but also of actually reducing the bulk of the gland itself, or, at any rate, of making the passage of urine from the bladder more easy of accomplishment." Out of a considerable number of cases, in all of which, before coming under treatment, there was residual urine from 2 to 10 ounces, and constant desire to pass urine at night, he particularly selected three cases "since in them—apart from the catheterisation on the first and one or two

subsequent visits, with a view to ascertaining the amount of residual urine—no instrumental treatment had been adopted, the patients being left to pass their water as well as they could without such aids. *Ferrum pic* 2x in one drop doses three or four times daily was used and continued for some months. Almost at first, usually within two weeks, a marked diminution of the nocturnal pyknuria was noticed, and in all of them, after a two months' course of the remedy, there was likewise a considerable decrease of residual urine. Before the patients discontinued treatment, two of them had practically no residual urine, and the other only two ounces."

It is a pity we have no clue given as to why the drug was selected for the disease. There is no pathogenesis of *Fer. pic.* to guide to its selection in any case. Was Mr. Wright led to it by the combined pathogeneses of *Ferrum* and *Acidum Picricum*?

Death of a Football Player from Tetanus.

The *Lancet* of the 5th December records the death of Joseph Powell, a member of the Royal Arsenal Football Team, in consequence of an accident which occurred during a match at Kettering on Monday, the 23rd November :—

This was attended to on the ground by some persons who were said to be qualified to render first aid to the injured, one of whom seems, however, to have fainted at the sight of the protruding bone. Mr. Dryland, of Kettering, subsequently syringed and disinfected the wound, putting it up in splints with iodoform and bismuth gauze. When seen the same night by Dr. R. E. Williams, of Woolwich, the surgeon to the Arsenal club, the temperature was slightly elevated, but there was no symptom to cause alarm. The wound was carefully cleaned and dressed and moulded splints applied the next day, but on the morning of November 27th slight symptoms of tetanus presented themselves. Chloroform was given and the wound opened and scraped and scrubbed out. Dr. Williams then obtained all the tetanus antitoxin that he could get and immediately injected it. The next day the condition of the patient, which had appeared at first to have improved under the injection, became worse and Mr. Symonds of Guy's Hospital was called in, who decided to amputate above the elbow. More antitoxin was obtained and injected and the patient was kept absolutely still, as even swallowing a mouthful of water brought on a convulsion. Death, however, occurred very suddenly, with only a slight spasm, on the morning of the 29th. At the inquest, which

was held on Wednesday last, evidence was given that the accident was due to Powell's foot lighting on his opponent's shoulder after a flying kick when the bull was high. The ground was sloping, and Powell fell heavily on his left arm. The jury unanimously expressed their appreciation of the great care and skill with which Dr. Williams had attended to the deceased. Dr. Williams mentioned that the anti-tetanus serum appeared to be most difficult to obtain. We understand that he was only able to procure 60 c.c. on the Friday and a similar quantity on the Saturday. Of this 20 c.c. were injected on Friday night, 10 on Saturday morning, 20 in the evening, and the remaining 10 late the same night.

Poisoning and Death from Drinking Linimentum Belladonnæ by mistake.

The following case has been reported by Dr. C. M. O'Brien, late Senior Resident Surgeon, Jervis-Street Hospital of Dublin, in the *Lancet* of 14th November:—

On January 5th of this year, at 12.15 A.M., I was rung up to attend a police constable aged twenty-eight years, single, who two hours previously had drunk linimentum belladonnæ, B. P., in mistake for Scotch whisky. On my reaching the barracks (a distance of four miles) twenty minutes later I found the patient quite comatose, with pupils widely dilated and inactive to light, breathing stertorously, the breath smelling strongly of belladonna, the face flushed, the heart greatly excited and weak in action, and the pulse at the wrist quick and readily compressible. The lower extremities were cold, and there were frequently recurring convulsions. Copious vomiting having occurred as a result of emetics previously given both subcutaneously and by the mouth, strong coffee was administered in small quantities and at frequent intervals. Having applied a mustard blister to the cardiac region, and warmth externally the patient's condition became so favourable as to allow of my administering morphine, which I did hypodermically ($\frac{1}{4}$ grain) at intervals of twenty minutes. After the second injection, however, I noticed that the pulse and respiration betrayed signs of embarrassment as a result of which I deemed the further exhibition of the drug inadvisable. Under the influence of the stimulants which were steadily administered the pulse and respiration again became steadier and the patient semi-conscious, remaining so for ten minutes but afterwards gradually lapsing into his previous unconscious state. Semi-consciousness and total unconsciousness now alternated at regular intervals for a period of about three hours, after which the

patient became more collected, and remained so up to the time of his death which occurred about eighteen hours after his having partaken of the poison. The bowels were moved by a dose of castor oil given in the early stage of the treatment, and urine was freely secreted. The heart manifested signs of flagging, and the pupils were so widely dilated during the entire time that only a ring of iris was perceptible. There was no post-mortem examination.

Sulphonal Poisoning in a case of Melancholia Agitans.

The following interesting case reported by Dr. F. P. Hearder, Assistant Medical Officer to the West Riding Asylum, Wakefield, is reproduced from the *Lancet* of 11th November:—

A MAN forty-three years of age, single, of steady habits and with a good family history, four months previously to his admission on May 2nd, 1896, to the Wakefield Asylum, had hurt the back of his head in an accident; he suffered much from shock and "had been very nervous since." Three weeks before his admission he cut his throat. His physical state on admission was as follows. His height was 4 ft. 10 in., and his weight 8 st. 8 lb. He was fairly well nourished. He had a cut across the front of his throat one and a half inches in length, opening into the trachea and healing by granulations. When he spoke a peculiar buzzing and whistling sound was produced by the air escaping through this opening. His hair was black and his complexion was sallow. The pupils were unequal, the right being more dilated than the left; the left pupil reacted more perfectly. His knee-jerks were exaggerated and there was slight ankle clonus. His superficial arteries were thickened and tortuous; the heart's action was irritable and irregular, and the sounds were accentuated, but there was no bruit. In the urine there was a copious mucous cloud; it was acid, of specific gravity 1022, and contained no albumin or sugar. His mental state on admission was that of agitated or motor melancholia. He had a dejected and lacrymose expression and he had aural and visual hallucinations and delusions that harm (murder, &c.) was happening to his mother and sister; he cried and prayed for their safety. During the next few days he continued restless, sleepless, needed forcible feeding, and was constantly attempting to tear the bandage off his throat, requiring continual supervision. A mixture of bromide of potassium with chloral hydrate was exhibited with no good effect. Sulphonal was then tried (fifteen grains three times a day) administered in a warm drink, apparently with marked good effect, as he took his

food better, slept well at night, and was less restless during the day. On the fourth day his gait was ataxic and his expression and movements were "drunken." On the sixth day the urine—which, as is usual in patients taking sulphonal, was being carefully watched—was noticed to be becoming scanty and highly coloured. The sulphonal administration was at once stopped and the urine examined. It contained no blood and no albumin. On the following day there was marked oliguria, about five ounces urine being passed in the twenty-four hours. The urine was of about the colour of porter which had been shaken; there was no deposit, it was acid, and of specific gravity 1015. The amount of albumin was exceedingly copious, the urine on being boiled becoming almost solid. The patient was in a somewhat soporose state; there was slight œdema of the eyelids, but no swelling of the legs and ankles. The pulse was quiet and the temperature about normal. He was kept recumbent and a saline purge was administered, a diuretic mixture containing citrate of potassium and acetate of potassium being given, with diluent drinks, milk and soda-water, and barley-water. On the following day the urine was still somewhat scanty, highly coloured, acid, and of specific gravity 1020, but it contained no blood or albumin. The patient was better and took food (fluid and semi-solid) freely. Since then he has made considerable physical and mental improvement, but continues depressed. Several subsequent examinations of his urine have revealed nothing abnormal.

With the exception of a few cases of post-influenzal debility where single doses of sulphonal have been followed by toxic effects, all cases of sulphonal poisoning have been after long-continued use of the drug, the symptoms usually being lethargy, giddiness with digestive disturbances, anorexia, constipation, occasionally diarrhœa and vomiting, and hæmatoporphyriuria. A German observer has also noted ischuria, oliguria, and sometimes albuminuria. Professor Stokvis, experimentally administering sulphonal to dogs and rabbits, found "it was only when the drug was pushed to a fatal termination that albumin appeared during the last days of life." In the above case the dose was comparatively small and the toxic effects acute. It is a good example of the necessity of training attendants and nurses to note the urine of every patient taking sulphonal.

The Purpose of Pathological Processes.

ZIEGLER (*Münch. med. Woch.*, October 27th, 1896) says that processes occurring in consequence of injury to the tissues are in part

beneficial to the individual, yet it must not be concluded that the definite vital manifestations are always purposeful in that sense, or that the processes leading to repair always best answer the object in view. This question is not of mere theoretical interest but of practical importance. In the infective diseases the processes mostly manifest themselves in inflammation and fever. In cases which have terminated favourably a definite change has taken place in the tissues, making the individual immune against the disease. Some teach that inflammation is to be regarded as the contest of the tissues and organs against injury or harmful substances. In fever the metabolic processes, which produce in the first place a rise of temperature, are looked upon as beneficial. If the pus or tissue cells are able to take up bacteria and kill them, this would constitute a reparative process. If the body temperature rises in a disease to 39° or 40° C., and the microbic cause of the disease is killed by exposure to a temperature of 35° to 38° C., this should lead to a disappearance of the morbid manifestations. If in the course of an infective disease substances antagonistic to the bacterial poison are produced, this must be looked upon as an extraordinarily beneficial occurrence for the individual against the infection and intoxication. If, however, the inflammation ends in an abscess as of the brain or liver, or if the exudation in the air passages leads to their narrowing, such results are not beneficial. If bacteria find in the cells a favourable medium for growth, no limiting effect can be exercised on the disease but a further extension is likely to ensue. If the metabolic products have no harmful effect on the bacteria, and do not counteract the effects of bacterial poisons, they are not only useless but noxious by producing degeneration of vital organs. Thus it would appear that the pathological processes accompanying the infective diseases have a very varying value, and what may be useful in one may be harmful in another. The papules of measles and vesicles and pustules of small-pox are not the expression of any beneficial reaction of the individual, but result from the different nature of the measles and variola poisons. This view is opposed to that held by some, that the individual always reacts in the way which is of greatest service to himself. Selection is not always in a position to adapt man and animals to the altering conditions of life. This is particularly well seen in the infective diseases. The infections are numerous, and the dangers of spread are much increased through the habits and customs of modern life. Phagocytosis is only a vital manifestation of cells which has for its object their nutrition. If particles or bacteria are not suited for the nutrition of these cells

they are thrown off again. Thus in infective disease processes occur which are adapted for the protection of the individual, but others also exist which favour the bacteria or the causes of disease. In diphtheria, tetanus, cholera, the most potent and useful event lies in the production of substances antagonistic to the bacterial poisons. The knowledge of these processes has contributed greatly to the prevention and treatment of disease. It would be wrong to assume that such active bodies are present in all infective processes. In conclusion, pathological processes must be divided into the useful and the harmful, of which the former are to be promoted and the latter hindered. Further advances on these lines are to be expected in the future, but these advances are not made by applying the results of observations obtained in one infective disease indiscriminately to all other diseases. —*Bri. Med. Jour.*, Dec. 12, 1896.

Evils of excessive Meat Eating.

The following is reproduced from the *Hahemannian Advocate* of 15th October 1896 as of special interest to this country in the present state of things :—

“Mrs. Ernest Hart, the noted English observer, says in *Diet* :

“One deplorable result of excessive meat eating in England is the ill temper which is a chronic, moral complaint among us. In no country, I believe, is home rendered so unhappy and life rendered so miserable by the ill temper of those who are obliged to live together, as in England. To every body examples will occur of homes which are rendered quite unnecessarily unhappy, when they might be happy, by the moroseness and rudeness of the head of the family, by the peevishness of the wife, or the quarreling of the younger members. In less meat eating France, urbanity is the rule of the home. In fish and rice eating Japan, harsh words are unknown, and an exquisite politeness to one another prevails even among the children who play together on the street. In Japan I never heard rude, angry words spoken by any but Englishmen. I am strongly of the opinion that the ill temper of the English is caused in a great measure by too abundant meat dietary, combined with a sedentary life. The half oxidized products of albumen from muriates and muric acid, which, circulating in the blood, produce both mental and moral disturbances. There can be but little question as to the truth of these statements.”

Our contemporary adds :—

“And you will readily find the marks of the animal predominating

to just the degree in which the demands of the stomach control the life of the individual,—selfishness, quarrelsomeness, irritability, aggressive in character, the power of might of over right. It will also be noted that as soon as man becomes the servant of his stomach, that the demands of that stomach will usually include an excess of meat, followed by an excess of stimulants, thereby forcing the system to dispose of its extra work in some way or another; and the long train of disturbances arising from this abuse of nature's laws, may be more easily overcome through the elimination of the flesh of all kinds of animals from the regular diet."

In reference to the great increase in the cancer mortality in England, the *New York Medical Times* (Nov. 1896) also remarks in the same strain:—

"The gluttonous consumption of meat, which is such a characteristic feature of the age, may be regarded as especially harmful in this respect. Statistics show that the meat consumption in England has now reached the amazing total of 126 pounds per head per year. When excessive quantities of such highly stimulating forms of nutriment are ingested by persons whose cellular metabolism is defective, it is likely that it may excite, in those parts of the body where vital processes are still alive, such excessive and disorderly cellular proliferation as will eventuate in cancer. No doubt other factors co-operate, and among these may especially be mentioned deficient exercise in the open air."

What is Listerism?

- The following letter from Dr. Campbell Black, Professor of Physiology in Anderson's College Medical School, Glasgow, to the Editor of the *Medical Press and Circular*, shows that even the orthodox profession is not unanimous in its adulation of Lord Lister:—

SIR,—In answer to my query, "What is Listerism?" you courteously reply in your impression of the 26th ult.: "Sir Joseph Lister was the first to teach and prove by his practice the value of the principle of surgical cleanliness." Will you allow me with all respect to emphasise that Sir Joseph Lister was not "the first" to do anything of the kind, and that the "principle of surgical cleanliness" is not "Listerism"? "Listerism" some twenty-five years ago pre-supposed that suppuration was *due to germs*, and that *suppuration in wounds* could be prevented by *killing or excluding these germs*. Every one with the most fragmentary knowledge of natural history

knows that to perform such operations under these circumstances, it would be necessary to perform them *in vacuo* ! Lister began with carbolic acid to kill his innocent spores, and by ridiculous *mouvements de manège*, followed by superficial members of the profession, he trod the bars of bichloride of mercury, cyanide of potassium, "putties," gauges, steam-engines, and heaven only knows what not ; and, like the mutilated rabbit, he at length arrived where he began, at carbolic acid, *minus his spores and his theory*, for he has for some time abandoned the attempt to kill surrounding germs, to prevent suppuration, by carbolic acid or any other germicide. Lister, with his surgical investigations, obtained results inferior to those of obscure and *unscientific men*, who laughed at them and his germs ; see, for example, the recent obituary notice of Dr. John Borland, of Kilmarnock, in the *Lancet*. If you contend that the application of antiseptics or deodorants to wounds is "Listerism," then I deny it. When I was a student, some thirty years ago, we applied permanganate of potash, chloride of zinc, chlorate of potash solution, charcoal, &c., to wounds, and these, as I pointed out in my *brochure On Therapeutics and Diseases* nearly thirty years ago, acted in Nature's way of deodorating, as oxidising agents. Antiseptics, as I pointed out in *Kochspiel*, are totally different agents ; they are agents which coagulate the albuminous principles of living tissues. But, further, yeast poultices were applied as deodorising applications—poultices of "germs" which Lister was so anxious to exclude from wounds and to kill ; and they did good, and will do good still as oxidising agencies, reducing fetid complex intermediate compounds to innocuous binary ones acting as occurs in nature. Yeast transforms sugar into alcohol by a process of oxidation, and it acts in a precisely similar manner on wounds and fetid surfaces generally. "Listerism" is dead as Queen Anne, and not one day too soon. It was a fad from the commencement followed by the obsequious crowd, who pose as scientists *au courant* with the age. It has gone the way of many another fad in medicine and surgery. It and its congener, the germ theory, on which it was based, have done an immense amount of mischief to medical science, causing a diversion from the only true basis of medical and surgical science, *viz.*, physiological chemistry and anatomy, and bringing undeserved ridicule and contempt on the fractional part of *real science* to which modern medicine could justly pretend.

CLINICAL RECORD.

A Nux Moschata Case.

We reproduce the following very interesting case published, in the *Monthly Homœopathic Review* for November 1896, by Dr. Andrew M. Neatby:—

Mrs. G., æt. 30, 18th June, 1896. Has suffered for many years "from prolapsus uteri." The trouble is constantly brought on by exertion even of trifling character. A comparatively short walk is enough to cause a "descent of the womb." She had worn two ring pessaries, but had discontinued their use as she was unable to retain them. They came out with every motion. She suffers from constant pain in the back below the waist, and from a dragging pain from the shoulders downwards. The pain is worse just before each period, but there is no pain during the period. She has no bearing down sensation. The period is sometimes seven days too soon, and sometimes fourteen days too late, and is occasionally profuse. She frequently has a troublesome leucorrhœa for a week before the period. There is an occasional headache right through the temples just anterior to the ears. She complains also of pain at the back of the neck. She sleeps well, but gets drowsy by about nine p.m. She has long suffered from palpitation, which is worse on exertion or on going to bed. There are no dyspeptic symptoms; no "globus" or faintness; but sometimes numbness of fingers.

Nux moschata 4x, miii. ter.

25th June. Says she is not nearly so languid, and is in better spirits. Her sleep refreshes her better, and she suffers less from palpitation. The dragging pain from the shoulders is less. Continue.

29th June. Feels more equal to exertion. "Things are not such a trouble." Continue.

13th July. Has been free from the prolapse since beginning the medicine. Yesterday had some trouble with the pain in the upper part of the back. The pain over the sacral region is better.

Nux moschata 30, pil. iii. ter.

20th July. Altogether much better. Feels very little of the pains in the back, and nothing of the pain in the neck. Has entirely lost the nervous restless feeling she had. Has much less palpitation but still some headache. The leucorrhœa has disappeared. There has been no return of the prolapse, though the patient has frequently made such exertion as always formerly sufficed to bring it on. The last period came on prematurely.

Nux moschata 30, p. iii. n. and m.

27th July. Feels better in every way. Is in better spirits and not so easily tired. No pain in the back. Headache much better. There has been no return of the prolapse, but has had a very slight irritating leucorrhœa. Continue.

4th August. Describes herself as better than she has been for a great many years. The leucorrhœa is better. She is free from the pain in the back and continues entirely free from the prolapse, though working harder than when she was constantly suffering from it.

No local treatment has been adopted in this case. There has been no change of air or rest of any kind. During the treatment the patient's circumstances have been getting more and more trying.

I directed her to take the same medicine once a day and discontinued my attendance.

Remarks.—One leading indication for *nux moschata* was the *variableness* which characterised the menstruation. Farrington (*Clin. Mat. Med.*, p. 111) has noted the changeable character of the nervous symptoms of this drug. A variable humour is also recorded under *nux m.* in the *Cyclopædia* (iii. 417, 323). It is further observable in the *Cyclopædia* poisonings, that in many of the cases recorded the drug was taken under the impression that it was valuable in the treatment of various uterine troubles, such as delayed, arrested, or profuse menstruation, and leucorrhœa. Case 13, on p. 425, seems to show a marked action on the uterus and ovaries. A similar action is observable in Case 14, though there it is less striking.

On p. 416 of the *Cyclopædia* (vol. 3) there are two provings, in one of which menstruation was premature; while in the other it was delayed. In the latter, when menstruation was due there was only a slimy discharge. It will be observed that in my case the period was preceded by leucorrhœa.

Drowsiness, lassitude and palpitation occur repeatedly in the *Cyclopædia* under *nux moschata*.

Irregularity as to time and quantity is noted by Lilienthal (*Hom. Therap.*, p. 733) as being characteristic of *nux moschata*. The same author refers (p. 673) to this remedy under leucorrhœa in connection with prolapsus, and palpitation.

The remaining symptoms will be found substantially in Jahr.

P.S.—The patient was seen again on the 17th of September. She continues free from the prolapse, and says she has enjoyed better health the last two months than she had known for eight years previously. She has just overtaxed her strength very imprudently, but has done so with impunity except for natural fatigue and a return of the pain so slight as not to be compared with what she formerly suffered. Menstruation is now regular.

**THERAPEUTICS OF CONSTIPATION, DIARRHŒA,
DYSENTERY, AND CHOLERA.**

141. LABURNUM.

Constipation :

1. The bowels become almost always constipated.

Diarrhœa :

1. D. followed by cessation of convulsion.
2. Purging on morning of 2nd day ; continued to recur in some degree daily.
3. Purged considerably ; smart purging. Constant purging, every half or three-quarters of an hour.
4. Watery fluid, with feculent odor, constantly drained involuntarily from bowels.
5. Green, clay-colored, or dark sts.
6. Vomiting and D. ; or D. without any vomiting.

Dysentery :

1. D., with tenesmus and slightly sanguinolent sts.
2. Bloody D.

Aggravation :

1. Morning.

During St. :

1. Tenesmus.

After St. :

1. Cessation of convulsions.

General Symptoms :

1. Stupefaction. No anxiety, remarkable indifference to all around. Seemed stupid and unconcerned ; when roused by a shake, would answer a question by a nod. Vertigo, even while lying down. Head hot.
2. Eyes dull, lustreless, and surrounded by livid zone. Eyelids half open. Pupils dilated, but acting readily in strong light, or sluggish.
3. Anxious expression. Deathly pale countenance with blue lips. Face pale and expressive of severe pain, augmented by a succession of muscular contractions.
4. Tongue white, or clean and moist ; pale and glazed, or dry, glazed and red. Dryness of mouth and throat. Mouth and lips parched. Speech very indistinct. Greedily thirsty, grasped at liquids with avidity, seizing vessel with both hands and draining it.
5. Constant nausea and eructations. Severe vomiting, with shivering, pain in stomach and bowels and great feebleness ; vomiting especially after eating. Occasional vomiting of a light brown fluid, in which floated glutinous and stringy matters. Stomach ejected large quantities of watery secretion. Nothing remained in stomach, even water or ice was instantly rejected. Vomiting, vertigo, and cold sweats, preceded by slight feeling of malaise, and followed by high fever. One vomited repeatedly during twelve hours, another only three times, but in the latter case the other symptoms were more violent.

6. Pain in epigastric and umbilical regions. Burning in epigastric region. Cramp-like pain in region of stomach. Flatulent distension of abdomen. Abd. distended, tympanitic, very sensitive to pressure; or flaccid and somewhat painful in hypogastric region. Pain in abd. increased by pressure. Colic.
7. Breathing stertorous. Respiration accelerated. Breathing slow, expiration very markedly prolonged. Heart action rapid and tremulous. Pulse weak and rapid; imperceptible.
8. Jerking and trembling of limbs. Extremities weak and cold. Convulsions. Great prostration. Complete collapse, with great restlessness and perfect consciousness.
9. Body pale, cold, almost marble like. Skin cold and clammy. Cold sweats, vomiting, vertigo, preceded by feeling of malaise and followed by high fever. Every now and then severe rigors.
10. Considerable drowsiness. Transitory somnolence and languor, leaving marked insomnia which lasted through the night. Intervals of restlessness and tossing from point to point in bed, alternating with others of heavy drowsiness.

Remarks : LABURNUM has not yet been used as a remedy, nor has it been even proved, by our school. A pathogenesis has been constructed by Dr. T. F. Allen out of poisonings reported in journals of the old school, and given in his *Encyclopædia of Pure Materia Medica*, from which we have extracted the above symptoms. It will be seen that this leguminous plant is highly poisonous, all its parts, the root, the flower, the fruit, the seeds, and especially the bark, contain the active principle or principles. It is essentially an irritant but seems to exert a narcotic influence upon the brain. Its action on the alimentary canal is chiefly characterized by vomiting and purging. In small doses it acts as a constipant, in large doses, as an emetic and a cathartic, producing even bloody stools. Hence it may be used in constipation, diarrhœa, and dysentery. In diarrhœa, with or without vomiting, when the stools are green, clay or dark-colored, especially when they are watery, draining continually and involuntarily from the bowels, LABURNUM is likely to be of great service. In dysenteric diarrhœa, that is, when the stools are profuse, watery, and bloody and passed with tenesmus, it may help when other remedies fail. In using it, we need hardly say, that we should pay particular attention to the general symptoms, especially those of the mind and stomach. There are cases of cholera in which a stage arrives when the watery stools continually pass involuntarily, and the patient seems stupid and unconcerned and can only be roused by a shake, and would then only answer by nods, and not by words. In such cases LABURNUM would deserve a trial.

Gleanings from Contemporary Literature.

THE NATURAL IMMUNITY OF VENOMOUS SNAKES.

In a previous article (*Nature*, October 24, 1895, p. 621) the "Serum Treatment of Snake-bite" was briefly discussed by the writer of this note; and Calmette's and Fraser's researches are now so well known, that it is not necessary to give a summary of them. One or two points, however, must again be alluded to, because recently Dr. D. Cunningham, of Calcutta,¹ has carried on some important experiments which throw fresh light on the matter, and which also supply answers to some of the questions raised by the writer in the above-mentioned article.

The most surprising conclusion of Calmette and Fraser was that the serum of an animal immunised against cobra poison will protect not only against this poison, but also against the poisons of other snakes. It might be thought that this is an argument against Behring's law that the action of immunising serum is specific, *i.e.*, that such serum can only counteract that virus against which the animal supplying the serum has been immunised. Most snake poisons, however, are so similar in their chemical nature and physiological action, that it is hardly surprising that chemically similar poisons which, according to their action on the animal body, belong to one physiological group, should have the same antidote. In the former article the writer pointed out that there is one poison, daboia poison, which, as shown by Cunningham and Wall,² differs from cobra venom in its physiological action; and that therefore one could hardly expect that (*a*) animals immunised against cobra poison would become resistant against daboia venom, and *vice versa*, and that (*b*) a serum capable of acting as an antidote to cobra poison would also be capable of neutralising daboia venom.

By a series of experiments performed at the Calcutta Zoological Gardens, in 1895 and 1896, Cunningham³ has supplied these *a priori* considerations with a sound basis of fact. He shows that a fowl immunised against daboia venom by means of an habitual cumulative treatment with that poison does not acquire a corresponding immunity from cobra venom; and conversely, that the serum derived from the blood of animals which have been artificially immunised against cobra venom has no effect whatever as an antidote to daboia venom. The results are precisely what had been anticipated by the writer from the perfectly distinct properties of the two poisons. It is therefore not possible, so far as our present knowledge goes, to establish a vicarious immunity against absolutely dissimilar poisons, and

1 "Scientific Memoirs by Medical Officers of the Army of India," 1895, ix. p. 1-30.

2 "Indian Snake Poisons, their Nature and Effect," 1893.

3 "Report on the Results of Experiments on the Action of various reputed Antidotes to Snake-Venom." (Calcutta, 1895-1896.)

Calmette's statement, that a serum prepared from animals protected against cobra venom is an antidote against the action of the venom of *all* poisonous snakes, requires some correction. These experiments then strongly support Behring's law, and we must perforce adhere to the principle of the specificity of immunising serum: distinct toxins require distinct antitoxins.

Fraser¹ has asserted that the serum or blood of poisonous snakes possesses antitoxic powers, and has explained the snake's natural immunity from its own poison by assuming that it immunises itself by swallowing its own venom, and thus renders its blood antitoxic. 'In 1892, already the writer,² working in India with freshly-caught cobras, was unable to obtain any real antitoxic effects with the serum of a normal cobra. Cunningham has since devoted full attention to this matter, and shows conclusively that the serum of a normal cobra, whether it be administered together with, before, or after the poison, has no antitoxic action whatever, and one must agree with him "that the natural immunity of cobras is perfectly distinct in its nature from the artificial immunity which is established in other animals as the result of continued treatment with cobra venom, and that it is unconnected with any material of the nature of an antitoxin in the blood." Normal cobra serum has also no antidotal effect on daboia venom, although the cobra enjoys an extraordinary immunity against this venom. In the previous note it had already been maintained by the writer, that since a large number of innocent snakes are highly resistant against cobra poison, although they never ingest poison, it is almost impossible to regard the natural immunity of venomous snakes as being due to habitual ingestion of their own poisons. All we can say is that a number of reptiles and amphibia possess a high degree of resistance as a natural property or character, independent of any process of self-protection, whether by swallowing or inoculation. In a few interesting experiments Cunningham, moreover, clearly shows that the inoculation of a poisonous snake with its own venom does not lead to the production of antitoxic substances in its blood. 'This is important, because it might have been assumed that, whilst normal cobra serum possesses no antidotal properties, serum derived from cobras in which self-inoculation had taken place, might have become antidotal. One of Cunningham's cobras readily resisted inoculation with an amount of cobra venom sufficient to kill 1000 fowls, and yet its serum had no preventive action whatever on even the minutest dose of the poison. But what is stranger still: a fowl was inoculated with 3 cc. of serum from a cobra which had received .75 gramme of cobra venom. Considerable drowsiness followed, and sixty hours later the bird died of typical cobra poisoning. The blood of the snake, therefore, which had been killed a week after it had been inoculated with a large dose of cobra poison, contained enough

1 "Immunisation against Serpents' Venom," (Address, Roy. Inst., March 20, 1896.)

2 *Journal of Physiology*, vol. xiii., 1892.

unaltered venom to give rise, on injection into a fowl, to fatal intoxication, although the snake itself had shown no symptoms. In other experiments Cunningham obtained the same result, viz., "that the serum of cobras treated with excessive doses of cobra venom has no protective action whatever, but may for sometime contain enough unaltered venom to give rise to fatal intoxication in susceptible animals." Is it possible, then, that the natural immunity of poisonous snakes is due to the presence of the same antitoxic bodies which are called into existence in susceptible animals by a process of slow and gradual immunisation? Are not the conditions exactly parallel to those which we find in natural immunity from bacterial diseases? It is there quite exceptional to find that the serum of naturally immune animals possesses any bactericidal, immunising or antitoxic properties towards the bacteria or their toxins, from which the animals enjoy a natural immunity. We must come to the conclusion, at which both Cunningham and the writer have previously arrived, viz., "that snakes as a group appear to be relatively insusceptible to the action of cobra venom, whether they be poisonous or harmless."

Cunningham further believes that there is good ground for assuming that the degree of susceptibility, to some extent, runs parallel with that of respiratory requirement. Thus a *Zamenis (Ptyas) mucosus*, or "common rat-snake," may be submerged in water, without being the worse for such treatment, for about half an hour, and it may be exposed to an atmosphere containing a large amount of CO for at least two hours, without being in the slightest affected thereby. This parallelism between susceptibility to cobra poison and respiratory requirement, to some degree at least, holds good also for other cold-blooded animals. Thus the *Varanus salvator* is extremely resistant against the effects of cobra poison, and it is still more indifferent to submersion. That immunity from intoxication with cobra poison does not, however, depend entirely upon a low degree of respiratory requirement becomes clear, as Cunningham distinctly states, when we compare the *Zamenis* with the *Varanus*; for the former, which is much more rapidly drowned than the *Varanus*, possesses a far higher immunity than the latter. Certain *Lacertilia*, again, are as susceptible to cobra poison as fowls; but Calmette is wrong in stating that a high susceptibility is a general Lacertilian peculiarity. The *Crotalus versicolor* is quickly killed by cobra poison, but it is also rapidly affected by submersion. Batrachia, however, which have a low respiratory requirement, are relatively insusceptible to cobra venom. Hence, although the natural immunity of these animals does not entirely depend on their low respiratory requirement, this property is a factor of great importance; but however this may be, the natural immunity of poisonous snakes certainly does not depend on a process of self-immunisation. It would be interesting in this connection to study the natural immunity of freshly-hatched cobras, which, it is said, are venomous from their birth. —*Nature*, Dec. 10, 1896.

THE LOGICAL BASIS OF THE LAW OF SIMILARS : DOES
IT COMMEND ITSELF TO OUR REASON.

By R. N. FOSTER, M.D.—Chicago, Illinois.

Probably there are many physicians who attach but little importance to the claims of logic in therapeutics. To such, logic seems quite impotent to promote or decide any therapeutic principle. Speculation, *a priori* reasoning, metaphysics, may, they suppose, have some definite relation to logic, or logic to them, but they are all alike excluded from modern medicine. Those who think thus are not without reasonable excuse for their opinion.

Physics and metaphysics are very distinct, and medicine does not belong to metaphysics. Bare logic gives us nothing but logic, however it be worked; and logic is nothing but thought itself, freed from all contradiction, confusion and foreign matter of all kinds. Logic is pure thought, in exact working order. It is the true mechanism (to use a familiar simile) of thinking, the inherent method and principle: but it is not the object thought. It is the mill and its mode of grinding. It is not the grist; this depends upon what is put into the mill.

And in this respect medicine, like any other branch of science, has in it two distinct elements, each of which is necessary to the other. One of these elements is the grist for the thinking mill, that is to say, the mass of unground facts presented; the other is the thinking faculty itself, which takes in these facts in their crude state, strips them of all irrelevant and unessential elements, and finally turns out the logical truth that is in them in pure rational form.

This is the ascent of the mind from facts to principles.

But the thinking faculty itself is not one of these facts. It is superior to them. Its essential nature and effort is to present the principles of all facts without flaw, obscurity or contradiction. This is the descent of the mind from principles to facts.

These two distinct movements and elements constitute the actual and entire logic of all medical theory and practice, past, present and future. Without knowing it even, all real students of medicine employ this logic, and can by no possibility do otherwise if they think at all.

But it is much easier to look than to think, although even looking implies *some* thinking. The gatherer and reporter of facts must not merely see them; he must also see intelligently. And in like manner he who rethinks the facts seen, must himself see them as they actually are, in order and undistorted.

Facts without logical thought are but the grist without the mill. And the empty grind of logic without facts is the machinery wearing itself out in motion without a grist.

Now the grist of medical facts is enormous. Physiology, pathology,

hygiene, materia medica and therapeutics constitute now, as ever, the bulk of our material. And in this realm we may say that there is among all physicians a substantial agreement. That is to say, we all accept the *known* facts of physiology, pathology and materia medica, and we all agree that the materia medica has therapeutic value of some sort, in some degree and to a greater or less extent. It is not about the facts that we differ or dispute. It is about the principles that we deduce from the facts. Here logic comes in play. Here medical science has exhibited all its weakness. Yet right here, too, resides its real strength. Here is its weakness, because from the source of a crude and imperfect logic has arisen the numerous family of medical theories, most of them discarded as rapidly as they were adopted. And here, too, is its strength, for if imperfect logic propound the theories, a better logic, born of maturer thinking, casts them away. There is but one therapeutic theory that has so far grown stronger and surer from its first announcement a hundred years ago up to the present day, and that is the theory-- *similia similibus curantur*. The stern logic of additional facts by the million; the progress of hygiene, physiology and pathology; the accumulated experiences of three generations of medical men and of three generations of patients, chiefly converts from hostile systems, have none of them shaken this principle or retarded its progress in the world.

This system demanded at the outset the most implicit obedience to hygiene and physiology in the collation of its prime facts. It demanded the proving of drugs upon the healthy--not upon those already sick (although this field, too, yields facts of corroborative value)--not upon the bodies of animals, for we cannot reason from effects on animals to effects on man; least of all would it accept as its basis the distorted truths gleaned in the torture-house of vivisection. If vivisection is a credit to medicine, the credit belongs not at all to Homœopathy. The facts upon which Homœopathy grounds its first and only principle, are facts pure and fresh and sweet from the hand of Nature, and as such perfectly fitted for the deduction of a sane and natural and rational law of cure.

In formulating his law, Hahnemann enunciated no empty dogma, destitute of all basis in the facts of nature. On the contrary, he collated, as no other man had ever done before, and as none has ever since done, the actual observation and experience of all his predecessors, from Hippocrates to Hufeland.

He did more; he purified this experience by purifying every drug that he administered to his healthy subjects and to the sick under his watchful and penetrating eye. And he thus obtained a pure result, such as could not and cannot be obtained by the use of compounded and unpurified material, such as the world had previously used.

Thus it was that pure nature, the unhurt physiology of man, the pure and unmixed products of nature in her own pathogenetic and therapeutic laboratory, and the most perfect hygiene, and the most scrupulous method of study, all combined to sustain and perfect the great logical deduction-- *similia similibus curantur*.

And because it was so deeply and truly grounded, it is like a house founded upon a rock. The rains have descended and the winds have blown, and have struck upon that house for a hundred years, and it fell not, for it was founded upon a rock. There is and has been nothing in therapeutics like it, nothing at all equal to it, nor anything in sight that is likely to surpass it. And why? Because its logical structure is right, while at the same time its facts are abundant, well ordered and genuine. Here, for once in the history of medicine, the facts were not absent from the logic, and the logic was not absent from the facts.

This is true even of Hahnemann's deduction respecting high potencies, regarded even by some of his own followers as a conclusion somewhat forced—or as a pardonable error of enthusiasm. But today Hahnemann is justified to the letter by the advance of science.

I know of no more striking example of this than a report contained in No. 1, vol. iii., of the *New York Therapeutic Review* (March, 1895), a journal published by the Pasteur Institute, of that city. This report says:

"Within a very few years most interesting researches have been conducted upon the effects of water containing infinitesimal amounts of toxic salts upon the growth of some of the lower vegetable organisms.

"Loew and Rokorny's researches upon the reaction of living protoplasm in the presence of nitrate of silver were the starting point of these studies.

"Roullin succeeded in showing that nitrate of silver in the proportion of one part in 1,600,000 parts of water [about the third centesimal dilution] would inhibit the growth of *Aspergillus niger* [a species of mould fungus], and still further discovered that this organism would not live in water placed within a silver vessel, although no silver can be detected in the fluid with the most sensitive reagents."

This proves that the arguments of some Homœopathic physicians, who were justifiably sceptical concerning the therapeutic action of our high dilutions, that the medicine could not be effective because its presence could not be detected even by the microscope in the dilutions—this proves incontestably that their arguments were wrong. Their logic was good, and their facts were good, so far as they went. But these experiments, far more searching and crucial, demonstrate facts which they did not possess, and prove their logical deduction false.

But the worst is yet to come. I quote again:

"Naegeli's pupils have gone over these experiments again and ascertained their accuracy. They have been published at length by Schwendener, of Zurich. Naegeli's first studies revealed the fact that in the presence of the most diluted solutions of nitrate of silver, the filaments of *Spirogyra* could not live." But he found that this plant died in two different ways; in one way by strong solution of the salt, and in another way by "infinitely dilute solutions." In a word, by the strong solution the plant was chemically destroyed by simple corrosion; while by the "infinite" dilution, death occurred through the action of some hitherto unknown force, which he termed "oligodynamia," or little power. But here we must demur to the language

of the *Therapeutic Review* in calling this a "hitherto unknown force." On the contrary, it was well-known under the name of the "dynamis" of drugs, or drug-power, by Hahnemann, and by him described a thousand times in his writings on medicinal influence. It was just this mild power which Hahnemann discovered in drugs and sought to demonstrate and to utilize in therapeutics.

But finally, what did Naegeli and his co-laborers prove beyond all question that is vitally related to our topic? One more question must suffice. The reviewer continues:

"His results are well described as stupefying. He found that death occurred in three or four minutes in a solution of one part to 1,000,000,000,000,000 !!! (the eighth centesimal or sixteenth decimal dilution.)

"In such a dilution there could not be more than one or two molecules of the salt in each litre."

Distributing a litre of this solution in two-drachm vials to the members here present, about seventy-two of us would get a vial each. Two of these, perhaps one, would have the two molecules, the remaining seventy would have none of the drug at all. But all the same, what they have would kill the spirogyra in four minutes. But this is not the worst of it. Corrosive sublimate gave even more pronounced results; the organism died in a solution of one million million million millionth (each one of you can count it up for himself, it is just twenty-four ciphers)! "This could contain but one trillionth of a molecule in a litre" or quarter. This is equal to our twenty-fourth decimal solution. One molecule in a sea one mile deep and one million miles square.

Now one would suppose that we had reached the limit of demonstrable drug action upon living organisms. But by no means. We all remember what Hahnemann claimed respecting the power of pure metallic gold, triturated and mixed with water or alcohol, and diluted even to the thirtieth dilution. He claimed for such a dilution of that insoluble metal—for what he called an "infinitesimal" dose of it—a destructive and curative power. For this and all such doctrines he was made the laughing stock of Europe. But what now is demonstrated by the experiments of Naegeli, experiments varied, repeated, tested, tried beyond the possibility of error?

I quote again: "He then endeavored to find what substances could render water toxic, and which ones could impress or remove this toxic or oligo-dynamic condition. He discovered that many substances hitherto reputed insoluble in water" [here again we protest they were not so "reputed" by Hahnemann], "such as the metals, gold, silver, copper, iron, mercury, lead and zinc, by their mere presence in water possessed this property." "He was able by employing gold coins placed in vessels of water, to vary the amount of toxic force according to the number of coins placed in the water, and to the time during which they remain there." This well-called "stupefying" reaction of the hidden dynamics of drugs so absolutely demonstrated, must be accepted as a complete vindication, all the more complete because unintentional, of Hahnemann as a master of

materia medica and therapeutics. It proves beyond cavil that his facts were genuine, that they were logically related, that his powers of observation, in spite of the poor means of research at his disposal, were almost mathematically exact, and that even his dynamis and his high potencies are so true as to "stupefy" the most perfect scientific research of to-day!

And indeed oligodynamia is manifest enough all around us. It is by no means confined to the sphere of medicine. When a little pellet of poison destroys the organism of a powerful man or animal, we see an exhibition of oligodynamia in medicine which chemistry never explains, but rather denies.

And when we wonder at the mechanical forces set in motion by electricity in these modern times, we are witnessing an enormous illustration of oligodynamia in mechanics--for between the dynamo which furnishes the power, and the machinery which receives it, there is not even material or mechanical contact (in the ordinary sense of these words); there is simply the presence of the one near to the other. Such examples help to show that the conception of a dynamis in drugs is a thought free from contradiction, that is to say, is a logical thought.

But again, there were conditions attaching to early Homœopathy which were just as essential and as fruitful as the study of the principle itself. These conditions were a pure hygiene and a pure physiology; and again, a natural, as opposed to an artificial pathology; and likewise a pure and unmixed materia medica.

It goes without saying, that any departure from these conditions would have vitiated results.

It was the logical correctness of Hahnemann's thought that led him at once, at the very outset of his great career in medical reform, to enter upon the work of creating a pure materia medica, and to apply and test it under pure hygienic conditions and upon pure physiological states of the body. Here it was not fact and experiment that led the way, but a clear and logical thought, which finally wrought its way by immense industry, through chemistry, botany and pharmacy, and at last made even the manufacture of medicine a logical procedure.

It was this logical idea of Hahnemann that gave the first impulse to antiseptis, hygiene, sanitation and dietetics which is now so striking and beneficent a feature of modern medicine. Hufeland said of him: "He has introduced hygiene into the sick room." But he did more. He introduced mercy into the sick room. He banished instruments of torture from the asylums for the insane. He gave them instead music and play, recreation and comfort. This was all the splendid outcome of his one clear, logical consistent conception of medicine. The proof that was truly logical, that is, that he was right, is found in this: That the medical world has followed in the way that he first trod. He pointed that way. He explored it himself, and he walked in it all his life. It was the way from medical barbarism to medical civilization.

And we can say with certainty that it was not the absence of facts,

experience or experiment, for the world has always been full of these, but the absence of Hahnemann's logic which rendered that advance impossible at an earlier period. The crude facts had been accumulating for centuries. A mind was needed that could distil them and extract their vital essence. And it is very important to observe that the logical process in Homœopathy is just as vital in our day as it was in the days of Hahnemann. We, too, must think over our therapeutic problems with care and work them out with fear and trembling. The men who cry out that "all theory is vain, give us facts, give us something practical," are not altogether right. In religion faith without works is dead. And in medicine facts without brains are dead. However, it is equally true that brains without facts are useless.

Accordingly, Hahnemann did not strike out widely into an unknown world of groundless experiment. On the contrary, he garnered up the richest experience of his predecessors and contemporaries, and worked it all over in rational form. He had abundant material, but it was a chaos, and he hoped for a cosmos.

We have now before us the whole field. Hahnemann's conception of the work to be done, his terse summing up of the end in view through all the movement—"the sole duty of the physician is to heal the sick"—the conditions preliminary and necessary, the purifying of his raw material—the materia medica, the thousands of experiments to obtain the facts, the comparison of such facts with those recorded before, the earnest search through all for a clew of uniformity, a something howsoever general, yet definite, that should bind all these scattered experiences into an intelligible unity, for some fixed relation of interaction between the drug-world and the world of physiological organisms, which being known, might enable us to formulate a law of cure.

Now it is the demand of logical thought that all those movements, and any others that might be related to them, should each refer to and work with the others—in short, that all should work together as one movement—to one end.

So the ground being cleared for action, not without immense toil and care, Hahnemann took the few steps that follow each other in necessary sequence and reached his goal.

First. Medicines act and living organisms react.

Second. Medicines differ, so that the action and reaction are different with every drug.

Third. Drugs arouse different organs, or even different parts of the same organs, and even distinct functions.

Fourth. In these respects each drug is specific, characteristic, peculiar.

Fifth. What this specific character is, may be learned from experiment, accidental or designed, and in no other way.

Sixth. In disease drugs must be given that will act upon the part, organ or function that is diseased, and not such drugs as have no relation to the diseased parts.

This is the anatomical demonstration of the principle of *similia*. Every step is logical and secure. But two grave defects remain. The fact that Cantharides arouses a cystitis or a urethritis; the fact that it acts specifically at the anatomical seat of those diseases is no indication at all that it will cure those diseases. Rather should we anticipate that it would aggravate them, as in large doses it surely will.

Up to this point, therefore, all the work done has led to no therapeutic result. We have come near to demonstrate that all drugs are injurious to the diseased organs which they specifically affect, but have not approached a single evidence of their curative power. And indeed, what else could we logically have expected? Since all drugs are deadly poisons, how can the specific drug do any other than aggravate the specific disease?

But this is a very serious deadlock. The voice of the medical profession in all ages and the history of mankind is against expectancy. The very animals deny the doctrine, for they, led by an unerring instinct, take medicines when they are sick. What then remains? Search the records of centuries. Interrogate all the ablest, the most learned, the most experienced, from the earliest records to the latest, and let us see what light their testimony sheds on this knotty point, that threatens to bar the way to one step more of progress.

And now emerges a new series of facts for which we are anxiously waiting.

First.—Medical history concurs that drugs cause specific diseased conditions, as before said.

Second.—But this same history records that these same drugs have cured these same diseases thousands of times. Either these statements are true or medical authority is simply worthless. What is to be done? Experiment with pure drugs on specific disease symptoms, and note the results. Abundant experiment establishes beyond question the fact, which is linked firmly with all the previously known and related facts, that drugs do cure the specific symptoms of a disease resembling the symptoms which they produce. Putting the whole map of progress together, each part in its place, there would at first seem to be no conclusion possible, except one, viz., that drugs do not cure at all. But that conclusion is so powerfully contradicted by universal experience, both lay and professional, that it cannot be sustained for a moment.

The fact is clear. Drugs must act according to their specific character upon the specific organ, part and function which they naturally affect, and must act so as to produce precise and specific disorders. Nothing else can we expect from them. To affect those specific elements that are in disorder we must give the drugs that go to them; and we must send to them disease-producing drugs, for we have no others. Now, if we are not logically driven right into the temple of Homœopathy, we are at least in the vestibule, and the door is wide open.

One step more and we are within. That step is Experiment—more

experiment—abundant, endless experiment; each one repeating the affirmation, *similia similibus curentur*.

But a point remains yet. Drugs aggravate. They cure, but they set up a disease of their own sometimes worse than the original; just as corrosive sublimate will cure a natural and specific form of dysentery, but, if pushed, will surely set up a fatal entero-colitis.

How escape this, which is a real dilemma? Do not "push" the drug. Experiment again, and the conclusion is forced that the smaller dose is better than the larger, and how small it is to be is again to be determined by sheer experiment.

Thus that which poisons in the drug is avoided, and that which cures is retained. At length, we have arrived at something like a logical formula—the expression of a vast system of correlated facts and experiences and experiments, and capable of use in the making of further progress. The long and trying pregnancy, the painful labor are ended. Homœopathy is born. *Similia similibus curentur*, the unmixed remedy, and the least curative dose—at least the not poisonous dose—together with their allied and necessary conditions and concomitants, have since constituted almost all there has been of progressive therapy in the world, and none but God can know what a blessing they have been to sick and suffering mankind.

A very natural and quite logical conclusion had been drawn from an imperfect study of the facts before Hahnemann's time. It was this: If a drug produces disease in a special organ, by all means ought that drug to be avoided when that organ is diseased; if a drug disturbs a certain function in a precise way, as, for example, when opium causes constipation, then must that drug, above all others, be avoided if we wish to cure an existing constipation. This was tacitly accepted as a common-sense principle of medicine, so obvious as to need no discussion. It was supposed to be as universal and valid a law of therapeutics as could be found. Hahnemann did right to call that mode of prescribing Allœopathy. It was not and is not now a term of reproach, but is the exact word in the right place to express a universal idea. And the word becomes especially significant and apt when the antithetic idea of homœopathy is to be brought out in full force by contrast.

Now, by what logic and by what fact was this idea of Allœopathy overthrown? Chiefly by two considerations: First, by the well-known fact that medicines did cure specific diseases in organs which they did similarly disease: secondly, by the equally well-known fact that the drug with opposite action did not cure, but aggravate, although at first it seemed to cure. For example (and this remark applies to a very great number of drugs) *purgatives never cured constipation*. They seemed to do so for a few hours, but were inevitably followed by a reaction that terminated in an aggravation of the former condition. The drug had then to be repeated in greater force, again and again, until the organism was exhausted. Millions have been and now are misled by this specious sophistry of the laxative. Every time this mode of cure was tried it was with the same result. Yet

Nature shouted aloud the principle that she could not cure in that way. Men saw the fact, but they did not grasp the ostentatious logic.

When science could not solve the puzzle of the starry heavens by the apparent truth that they revolved about the earth, a thoughtful man finally took the hint, and asked what would the appearance be if the earth revolved about its own axis? All was explained in an hour. Just so did Hahnemann reverse the therapeutic conception of all previous medicine; not without a reason, however. He had experienced that fact in his own person of what is now known as the "dual action of drugs" in the case of one particular remedy, Cinchona. He suspected that this might be true of other drugs. But with correct logic, he instituted experiments to determine the point, consulted medical history, and announced the result. It is now proved by abundant observation that constipating drugs are the only drugs that will cure constipation.

To complete the justification of this greatest of all medical discoveries would surpass the limits allowed in the present trilogy. But it may be permitted, in conclusion, to allude briefly to the final evidence which gives practical endorsement to the truth of the Homœopathic formula—which completes the logical process.

Without the crucial test of clinical experience, the statistics of hospital practice, the records of epidemics, and the vast untabulated testimony of free, intelligent and unprejudiced millions who have tested both principles on the field of battle itself—the domestic sick room—without this test, the truth of Homœopathy would lack a solid body of support. But this kind of evidence has now been accumulating for a century. The clinical success of our system, in public and in private, has been unbroken. We can look back upon the army that has followed the banner of Hahnemann, and it is hard to find one single face averted, or any once-faithful follower deserting it.

And yet another kind of evidence is to be considered, of which we give but one example. In every hospital in the civilized world to-day a certain drug is used for definite conditions of threatened cardiac failure. That drug is Nitro-glycerine. How did the physicians of the world discover the virtues of this precious and powerful remedy? It was discovered by the late Dr. Constantine Hering, of Philadelphia, by Hahnemann's strict method of "proving," and its precise sphere of action was defined before it had been tested by any clinical experiment. Many years after Hering had announced this remedy, the Academy of Medicine in Paris bestowed special honors upon a French Physician for "discovering" the same long-published facts. In so doing, that distinguished body of physicians crowned Hering, Hahnemann and Homœopathy, and covered themselves with dishonor.

Finally, it may be that the "dynamics" of drugs, as described by Hahnemann, has its scientific place not only beside the "oligo-dynamia" of Professor Naegeli, but in the wider domain of "molecular physics and forces." And when we consider the countless evidences of oligo-dynami

activity which we witness in chemistry, physiology, biology, and in many other departments of science, we may claim, with reason, that oligodynamics is a form of activity inherent in the molecular constitution of the material world, and is the constant form of its silent and minute activities.

It may be, and it is most probable, that all poisonings and all "cures" are really molecular changes rather than gross mechanical effects. At all events, when we consider the effects of molecular activity as known to science in many forms, the strangeness of Hahnemann's small doses of medicines entirely disappears.

No matter how much medicine we give, short of the hurtful dose, the "cure" is effected by molecular forces. That is to say, but a very minute quantity of the amount given is used by the organism for the restoration of that deranged equilibrium which we call disease. The rest is rejected as waste material; and so long as it is harmless material, no objection need be made to its employment.

In claiming so much for the work of Samuel Hahnemann, we do not detract at all from the honor due to other great masters in other departments of medicine, and even in the same department. Honor to whom honor is due. Hahnemann has an historic setting which becomes him well; for it shows him as one of the galaxy of bright new minds that made his time an epoch. It was the time when Priestley and Lavoisier wrought in chemistry; when literature, philosophy and science sprung into new life. It was part of the Renaissance. It was when political liberty dawned again with unprecedented vigor. It was when Adam Smith revolutionized political economy. It was the opening of a New Age for the world; an age which had its enlightened ones in every department of human activity. And Hahnemann was the leader of medical reformers, the first and greatest of them all. As such the future will honor him.—*Transactions, American Institute of Homoeopathy*, Session 1896.

EXTRACT FROM A REPORT ON THE EPIDEMIC OF BUBONIC
PLAGUE, WHICH OCCURRED IN HONG-KONG IN THE
MONTH OF MAY, JUNE AND JULY, 1894.

By SURGEON-MAJOR H. E. R. JAMES, F.R.C.S.,

Army Medical Staff.

THE plague now under consideration is undoubtedly the Bubonic Plague of history; and such deviations from type and modifications as have occurred in it are probably racial and climatic.

It seems to have certain favourite visiting places, and to have almost invariably recurred in every place which it has once visited.

Certain peculiarities of meteorological conditions have generally preceded outbreaks, and epizootic diseases of (generally) domestic animals have often been previous to, or coincident with, the epidemic.

The prolonged drought had reduced the water supply to a minimum, there was as yet no sign of rain, and the temperature was gradually rising. Thus local conditions tended to favour the spread of the disease, and it was not surprising to learn two or three days later that it had assumed an epidemic form. The fall of rain within a week failed to produce the expected result; the disease still continued to claim new victims, and to increase in virulence with the increasing moisture of the atmosphere and with the stirring up of the soil caused by the flow of storm water.

The first historical notice of the plague refers to an epidemic in Libya, A. D. 98; but there are references in much more ancient writings to pestilences whose nature is not described, but which were rapid and destroyed large numbers of people in a few days. It occurred in Egypt and Syria and extended to Asia and Europe in the 6th century, and was established in Europe for 1,300 years. A variety called the "Black Death," supposed to have originated in North China, was rife in the 14th century. In the 15th century the plague occurred frequently in North Africa, Egypt, West Arabia, Syria, Asia Minor, Mesopotamia, Persia, India, China, and Europe. In the 17th century it lessened in area, disappearing from Italy, England, West Germany, Switzerland, Netherlands, and Spain. In the 18th century it continued to decrease, only two outbreaks occurring, one in 1703 in Turkey, Hungary, Russia, Poland, Austria, Bohemia, and East Germany, and the other in Provence.

In 1841 it ceased in Europe.

In 1843 it had ceased in Africa, except Egypt, and in 1844 it ceased in Egypt.

The later records are:—

- 1853. West Arabia.
- 1858—59. Tripoli in North Africa.
- 1863. Persian Khurdistan.
- 1867. Right bank of Euphrates.
- 1870. Persian Khurdistan.
- 1871—73. Yunnan.
- 1873—74. Left bank of Euphrates.
- 1874—77. Bagdad, Euphrates Valley, West Arabia, Tripoli.

- 1876. Persia, S. E., near Persia Caspian, N.-W. India.
- 1877. S. W. Caspian, Transcaucasia, Astrakhan.
- 1878. Persia, Khurdistan, Astrakhan.

From this list it will be seen that it shows a tendency to recur in places where it has been once rife, and to be carried by trade routes from these centres. The considerable communication by crusades and pilgrimages between Christian Europe and Palestine on the one hand, and Mahomedan Asia and Arabia on the other, the former during the Middle Ages and the latter later, have probably served to convey the germs to the homes of pilgrims, as is the case with Cholera. A careful consideration of the events of the various epochs would, I think, trace its carriage in every case to the affected district from one or two spots where it is, or has been, endemic, *e. g.*, the Euphrates Valley and Southern China. It appears to be confined to the northern hemisphere and only to flourish between 20° and 40° north of the equator, and not to have existed in the new world at all hitherto.

* * * *

• Every step of its course here has been corroborative of its contagiousness and its choice of the poorest classes as victims; and of the great preventive power of good ventilation, good food supply, and absence of overcrowding.

As proofs of its being contagious and not atmospheric, conveyed by persons and not originating *de novo* in the soil, and finally due to a microbe which decreases in virulence by continuous cultivation from the parent stock, I adduce the following facts:—

1. The disease is endemic in the province of Yunnan and cases occur every year there, those attacked having buboes with but little constitutional disturbance, and all recovering. After a prolonged drought it assumes a more virulent form, and then becomes epidemic, the persons attacked generally dying. People residing in the same house as the victims very generally contract the disease.

Therefore it is of varying virulence, and generally contagious.

2. Other provinces not having communication with an affected place, but similarly suffering from drought, and subject to the same atmospheric conditions, do not suffer, though their geological conditions are identical, and places with very different atmospheric and geological conditions do suffer if there is personal communication between them and an affected place.

There was an epidemic at Pakhoi in the present year.

There was a prolonged absence of rain at Pakhoi, Canton, and Hong-Kong simultaneously.

• The plague made its appearance first at Pakhoi, then at Canton and its vicinity, then at Hong-Kong, and then in the dependencies of Hong-Kong in the order given.

Persons trade between Pakhoi and Canton, between Canton and Hong-Kong, and between Hong-Kong and its dependencies.

• The first cases occurring in Hong-Kong were traced to Canton without exception.

The first cases occurring in the dependencies of Hong-Kong were traced to Hong-Kong without exception.

These facts prove that the disease is not atmospheric, that it is not telluric, and that it can be conveyed by persons and be communicated to those with whom they have intercourse.

3. At the commencement of the epidemic, and as it spread, the cases were almost without exception fatal. As the number of cases lessened the symptoms became much modified; death occurred later in fatal cases, and the proportion of deaths to cases was not nearly so large as at first.

This shows a decreasing virulence of the poison.

Professor Kitasato and his colleagues and Dr. Yersin discovered an organism in 25 out of 30 cases in the blood examined, and in all cases in the spleen and buboes of those affected by plague. This organism was a bacillus, the inoculation of a pure cultivation of which was fatal to all animals inoculated, the symptoms and pathological appearances being identical with those of the persons affected; these bacilli multiplied, and were discovered in the blood, spleen, and solid organs of the animals experimented upon.

In those cases where a history was obtained the origin of the attack was generally traced to intercourse with affected persons, or visits to, or sojourns in, their dwellings.

The dry season of 1894 was a very long one and water ran low everywhere (it was only turned on for two hours in the 24 in Victoria).

In the month of April no rain had fallen, and the plague broke out in Canton. There was an epizootic at the same time among the rats and pigs.

* * * *

Numerous recommendations had been made by the medical staff collectively and individually to the Sanitary Committee to (1) close all houses in which the plague had occurred; (2) to form a temporary town of matsheds or junks into which the former occupants of the infected houses might be sent, and where they would be under observation, and their movements be restricted by a cordon or patrols; (3) that every house in the town should be searched daily, the town being divided into districts and sub-districts for the purpose; (4) that the Tung Wa hospital should no longer be used as a receiving place for plague patients, as, owing to the instigation of certain members of its committee (Chinese), every art was being practised there to smuggle corpses and patients away without their being detected.

* * * *

The houses in which cases of plague had occurred were disinfected by chlorine gas obtained by acting on chlorinated lime with dilute sulphuric acid, and this disinfection was carried out, under supervision of the Government analyst, by the soldiers. The burying party and their operations were supervised by Captain Hastings, and, as the Chinese were not trustworthy, and took advantage of the flight of coolies from Hong-Kong to demand exorbitant wages, six Europeans from the Sailors' Home volunteered and carried out the burials. The corpses were removed from the Tung Wa in a

waggon which carried from six to ten at one time. All were confined in lime, and their mats, &c., were burned. By this time the organisation was fairly complete, and the disinfecting parties were able to disinfect every house on the same day as a case occurred. The amount of rubbish found in a Chinese house is very great. All that was not good or useful to the Chinese, and that was likely to contain plague germs, was burned on the spot, if the street was wide enough, and if not, taken to some waste ground and burned in a furnace.

Empty houses were rented by the Permanent Committee, and such people as could not afford, or did not wish to leave the colony, whose houses had been shut, were put into them. The great majority of the cases came from the district of Tsiung-Shan, and out of about 20 blocks of houses, until a period was reached at which only a few of these houses were open, the remainder having yielded three cases of plague and being closed for that reason. It was decided then to examine and close all such houses in this district as were objectionable on sanitary grounds, and the result was that they were all closed, and the streets were built up and the inhabitants removed to other houses. This proved a most salutary measure, for out of about 600 families removed, only nine cases of plague have since been found, those admitted within eight days (the period of incubation) having been excepted.

The things to be undertaken are .

- I. The evacuation of all basements as dwelling-houses.
- II. The redraining of such houses as are defective in that respect (this will take more time).
- III. The increase of water supply, which is promised to be complete by May 1895.
- IV. The laying down of imperishable and non-absorbent floors in all basements and ground floors.
- V. The inspection and closing of wells which are not protected.
- VI. The removal of all mezzanine floors, which are contrary to regulations (this is already being done).
- VII. The registration of coolie-houses, an order to bring them under frequent inspection.

* * *

SYMPTOMS.—*Fever*, ushered in by chills, occasionally running to 104° or above it. *Constipation* the rule, but *diarrhæa* occasional, giving place to former. *Vomiting* not uncommon. *Headache* often severe and referred to various regions, temporal more especially. *Tongue* furred—at first white, then yellow, then brown to black, and very dry. *Sordes* on teeth. Pain in the region of a group of *lymphatic glands* generally femoral, inguinal, cervical or axillary, occasionally mesenteric or bronchial, in the order of frequency above, and generally confined to one group. The cervical glands are most commonly affected in children in my experience. The pain is acute, and of a stabbing character, and the region is very intensely tender.

The site is determined in some instances by a wound or scratch ; but this is, of course, often wanting. The gland or group next becomes enlarged (the affection of the glands may precede, accompany, or follow, in one case by as much as six days, the onset of the fever), and great local infiltration takes place. *Cerebral Symptoms* are generally marked, and in fatal cases very severe ; delirium, convulsions, and coma following one another in quick succession. Sleeplessness is a frequent and very exhausting symptom. I have seen *hemorrhages* from nose, stomach, vagina, and bowel, and in a very few cases subcutaneous extravasations and petechiæ. The *pulse* is at first rapid, and in a severe case soon becomes running, and the heart fails very suddenly, often giving rise to a fatal syncope. The patient may be walking in the street and suddenly reel and fall, and be found to be dead.

The *blood* is rapidly deprived of hæmoglobin, and after a few days becomes thick and tarry. After death it is liquid. There is sometimes *staining* of the skin and *conjunctivæ*, as in jaundice. The *spleen* is always somewhat enlarged, the *liver* sometimes. *Urine* contains albumen in some cases. There is involuntary micturition in cases of comatose or semi-comatose people, occasionally retention. The *appearance* of a plague-stricken person is suggestive. In some cases the face is anxious, in the majority apathetic, the eyes fixed and staring, saliva dribbling from the mouth, and often incontinence of urine. The skin is dusky or yellowish, and the patient may be rather wildly delirious or with clonic spasms, or comatose. A cursory glance at a patient with the more common apathetic countenance is somewhat deceptive, as he may look as if nothing were the matter, and yet die a moment later. Latterly in this epidemic there have been cases in which the bubo does not exist, but which have been proved to be cases of plague both by the finding of Kitasato's plague bacillus and by the high rate of mortality.

Complications are pericarditis and myocarditis, congestion of lungs, and abscesses other than glandular, some cases of hypopion have been seen.

COURSE. - The temperature rises somewhat suddenly and is unaffected by quinine or other antipyretics. The tendency to hyperpyrexia is not very great.

The bubo, if any, may have commenced before the fever, or may be coincident with, or follow it. The appetite is lost, and there is much thirst, diarrhœa or vomiting may appear, the diarrhœa generally ceasing shortly and being succeeded by obstinate constipation. On the second day the symptoms are well established and the patient is probably delirious. It is not uncommon for death to occur at this time. In some cases it has happened within 12 hours of seizure; but these are not common, and it is difficult to get a correct history from the relatives. But I have a personal knowledge of one case, that of a chair coolie, who was to all appearance quite well, and at his occupation till 4-30 P.M., felt ill at 5 and lay down, was sent to hospital with a well-marked bubo and high fever on the next morning at 9 A.M., and was dead at 10 A.M. on the third day. The temperature remains high for a variable period, unaffected by quinine and antipyretics and falls gradually on about the sixth day. Delirium may be very violent, and give

place to convulsions and coma, but in the cases of apparently sudden death the patient is quite sensible throughout to all appearance, and in many of these cases it has been impossible to detect any bubo after death. (The opportunities of *post-mortem* examination are few, and it is unknown whether some of the visceral lymphatic glands have been the seat of affection in such cases.) The pulse often begins to fail after two or three days, and the blood loses its hæmoglobin very quickly. When once the bubo has commenced, it swells up very rapidly, but the amount of peripheral effusion and the tenderness of the part prevent an accurate estimate of the size of gland or glands. It appears to be as large as a hen's egg in some instances. If incised at this time, there is found to be a bloody extravasation in and around it, and much serious infiltration in the tissues about. The pain and tenderness gradually subside as the case goes on.

Buboes suppurate in about 75 per cent. of cases if they survive.

About the fourth or fifth day the patient is at his worst, and the symptoms are most intense. The tongue is dry and black, the pulse running, the headache or other cerebral symptoms intense, the hæmoglobin down perhaps to 35 per cent. Semi-consciousness, or convulsions, or coma; the temperature 101° to 102° , and death most frequently happens on the 6th day. There may have been hæmatemesis or epistaxis or hæmorrhages from other cavities, and the skin may show petechiæ or extravasation. There may be hypostatic congestion of the lungs and dyspnoea. If recovery is to take place the temperature gradually subsides, and the bubo may suppurate. Favourable signs are moderate fever, maintenance of pulse, mild cerebral symptoms, absence of complications, and tiding over the 10th day; gradual return of appetite, and perhaps suppuration of bubo, but this is a matter generally of lapse of time. When opened it is very slow of healing, and the glands are often caseous; the discharge is bloody at first, and thin and ichorous later on.

There has been no time to know what sequelæ may occur, but strength returns very slowly, and the patient has to be kept isolated for a month at least from date of attack, as the blood contains bacilli for three weeks in almost all cases.

TREATMENT. This is adapted to combat symptoms. In the beginning a calomel purge, and if fever is high antipyrine or phenacetin are generally given, though their effect is very slight. Bromide of potassium or ammonium is generally necessary to procure sleep, as insomnia is a most common and distressing symptom. A free use of stimulants is absolutely necessary, and the recumbent position must be strictly maintained, as death in apparently promising cases has occurred more than once or twice on the patient getting up when the nurse's back was turned.

There was in the Alice Memorial branch an experimental treatment adopted, the injection hypodermically of iodide of mercury, according to the formula of Dr. Sims Woodhead, for which success is claimed.

Musk has been given, but it is more costly and not more efficient than alcoholic stimulants.

The patient is placed on a milk and beef tea diet and carefully watched. Ice is allowed to allay thirst, and ice bags, &c., applied to head.

On its suppurating the bubo is opened, but it is unnecessary to make incisions previous to its suppurating as recommended by some, and in cases where this has been done, no benefit has accrued, and it is to be deprecated as it only increases the exhaustion of the patient.

Poultices and applications of belladonna to the bubo allay the pain, and other symptoms must be treated as they arise.

* * *

Diagnosis.—This during an epidemic is a matter of little or no difficulty when the case is a well marked one, but towards the end of this epidemic very atypical and anomalous cases occurred whose nature was proved by the finding of bacilli and by their generally fatal issue.

The diseases which may be confounded with it are *typhus fever*, *malarial fever*, and cases of *bubo* due to other causes and accompanied by fever. Doubtful cases should be placed under observation and examinations of the blood for bacilli should be made, as the finding of these is the only proof absolute of the disease being plague.

The leading symptoms are great gravity of constitutional disturbance, bubo, and furred tongue, the latter very typical.

The period of incubation is from three to five days, or possibly seven.

The mortality differed in Europeans and Chinese, in the former 2 out of 13 attacked, in the latter 9 out of 13 nearly dying, or 15 and 70 per cent. respectively.

The characters of the plague bacillus are as follows, as described by Professor Kitasato, its discoverer.—

They are one of three organisms of the nature of bacilli which are found in the blood, the others being that of anthrax, and relapsing fever.

They have capsules, and the poles are more easily stained than the middle part.

The first *cultivations* showed bacilli differing only from the original ones in being slightly longer, and staining better in the middle.

Mice *inoculated* from spleen and blood died in two days, with œdema around the point of inoculation, and the same bacilli reproduced in the blood and internal organs.

All animals inoculated from cultivations died in from 1 to 4 days, according to size, with the same symptoms.

These bacilli were found in all persons examined who had died of plague, in the buboes, spleen, lungs, liver, and blood in the heart, in fact, everywhere, and every cultivation from them produced the same bacilli.

They show very little *movement*, and are strongest in blood serum, which they do not liquefy.

The colonies in tube cultivations have a globular appearance, and are like glass wool.

They grew best at a temperature of 28° to 30° C. They were not seen by Professor Kitasato to form *spores*.

The disease was produced in mice, rats, and guinea pigs by *inoculation*, and in mice and guinea pigs by *feeding* with pure cultivations of bacillus, and small pieces of spleen of persons dead of plague.

The dust in houses where cases of plague had occurred was introduced by inoculation into mammals and produced plague in the case of one mouse, and tetanus in the majority.

(Tetanus is a very common cause of death here, and tetanus bacilli very frequent in the dust of all houses.)

The bacilli die on *desiccation* and exposure to the sun after four hours.

Heat.—At 80° C. those heated for 30 minutes were destroyed; at 100° C. they were dead in a few minutes.

Carbolic Acid.— $\frac{1}{2}$ per cent. and $\frac{3}{4}$ per cent. solution for one hour did not kill; a one per cent. solution killed in one hour.

Quicklime.— $\frac{1}{2}$ per cent. retarded growth; 1 per cent. killed.

Here it may be stated that Dr. Versin, the French bacteriologist, discovered that at a depth of seven inches, sufficient plague bacilli to produce a very large cultivation were obtained from the floor of a house in Taiping-Shan infected with plague.

The animals inoculated with these bacilli did not die, but the characters of appearance of the bacilli were identical with those of the plague bacilli. They were evidently not virulent. They have been found again in other houses, but produced no symptoms on animals inoculated with them.

Whether they are attenuated cultivations of the real plague bacillus or a distinct bacillus is a matter hitherto of conjecture.

Further results are expected of Professor Kitasato's researches, which will doubtless appear in due time.

He recommends disinfection of houses attacked by 2 per cent. solution of carbolic acid or quicklime, of clothing by steam at 100° C. Burial of dead at 3 metres from surface, disinfection of feces with quicklime. Removal of dead rats and mice with proper precautions, and isolation of plague patients for one month after apparent recovery. Care in the obtaining of food to avoid infected sources.

* * *

There are many houses built *back to back* to economise space, and this arrangement is a very bad one, as it leads to certain insanitary conditions:—

1st. Obstruction of ventilation.

2nd. Obstruction of light.

3rd. To the drains necessarily passing under the floor of the house; 60 feet being a frequent length of piping required for the house drains.

In high houses the light and air are almost entirely excluded from the lower storeys, and people who live in the houses contract the ventilating shaft by roofing it partly over, either to gain in floor space above or keep the rain from falling into the small yard below.

* * *

Personal Prophylaxis.—The bacillus, so far, is known to gain access by (a) *respiration*, (b) *inoculation*, and (c) *food*. It is, therefore, a sufficiently

remarkable fact that only one person in attendance on the sick or burying the dead has been attacked, though very many have had a day or two of indisposition, *e. g.*, sore throat, vomiting, diarrhoea, while the hospitals were full, and of the working parties when the work of house cleaning and disinfection was going on. The person who had been in attendance on the sick, and who contracted plague and died of it, was a nun, who developed slight fever five days after the branch of the hospital at which she was working had closed. It is a slightly doubtful case as to its real origin, but probably the disease was contracted in nursing. No doubt, all of us who were in constant communication with the sick inhaled germs continually, and Captain Vesey certainly got his attack in consequence of inhaling dust charged with bacilli during his work of house cleaning, at which he was indefatigable. The disease was practically confined to people who lived in ill-ventilated and dark rooms, and had poor food, and cohabited with infected persons or lived in infected surroundings, and to those having an unusually close contact with the sick—(certain of the Europeans attacked had had sexual intercourses with prostitutes, a good many of whom suffered from plague)—and these cases would be under cause (*b*). People who were (*a*) well fed and housed generally escaped, unless they happened to get a concentrated dose and were in a receptive condition; (*b*) people who had a knowledge of the conditions of reception, and who took precautions, such as washing with antiseptics, avoiding direct inhalation, and who worked in well-ventilated apartments, and inhaled fresh air at intervals, also escaped.

It is, therefore, indicated that these are the conditions to observe, viz.:—

- I. To avoid contact and direct inhalation of a patient's breath, as far as duty permits.
- II. To wash the hands and mouth with proper antiseptics after work, and change the clothes.
- III. To avoid work in connexion with the sick and their surroundings, if not in good health.
- IV. To have hospitals and abode well ventilated, and to get fresh air as much as possible. These precautions are sufficient to prevent any likelihood of contracting disease by respiration.
- V. If working on dwellings and clothing of patients to cover mouth and nostrils with a handkerchief dipped in carbolic acid solution, 1 in 40.

Inoculation.—Professor Kitasato and Dr. Yersin proved the inoculability of the disease upon rabbits and guinea pigs. It has also been noticed that the site of the bubo seems to be determined by the existence of a scratch or cut of the area from which the affected glands absorb. The Chinese coolies always go barefoot or with grass shoes, and abrasions and cuts are very common on their feet. The vast majority of buboes were in the femoral region. It is possible that these, or some of them, got their attack by inoculation.

The precautions for prevention of this mode of contraction are sufficiently obvious.

By Food, including water. The affection of human beings by this mode of access of the germ has not been proved, but it is highly likely. Professor Kitasato fed mice, guinea pigs, &c., on cultivations of the bacillus, and also on buboes, portions of spleen, &c., of affected animals and persons, and produced the disease in this way.

The precautions against attack thus may be as follows :—

I. To boil all water.

II. To eat no uncooked food.

III. To be sure of the impossibility of contamination of all food matters by servants, shop-keepers, or merchants.

General Prophylaxis.—The drainage, water-supply, food-supply, ventilation of streets and dwellings, removal of dust have to be most particularly looked after. In this place night-soil and urine are used for the manuring of fields and market gardens by the Chinese. This may be a source of danger to consumers of vegetables.

• All wells not protected from contamination should be closed.

• The source of food-supply, as bakeries, butcheries, &c., should be carefully watched.

Overcrowding of dwellings should be prevented. Streets should be kept scrupulously clean, and rubbish of any description must be removed and not allowed to accumulate.

All combustible rubbish should be burned, and incombustible rubbish taken out to sea. The sewers should be flushed at frequent intervals.

Dead rats and other animals should be treated as possible sources of infection, as the bacteriologists have found plague bacilli in them ; and as large numbers of them had died, first previously to the epidemic among human beings, and since then during its continuance it is reasonably imaginable that the epizootic among them may be the effect of the same bacillus, as is beyond doubt the cause of the plague.

• (In most epidemics of this disease there has been an epizootic among rats and sheep preceding it. An epizootic occurred among pigs in Canton.) The floor of all dwelling houses should be of material impervious to gas or water, as it is possible that the bacillus thrives in the ground, at all events near the surface in infected houses, and it is probable that it regains its virulence there, and in favourable seasons flourishes and gives off quantities of germs and spores, hence the floors should be made incapable of absorbing fluid from above and permitting the egress of gases carrying microbes from the ground beneath. House drains should be trapped and well constructed.

• It is probable that the germs may be carried by the clothing of persons sick of plague, and such absorbent articles as are in contact with them or have received their dejecta and breath. Such articles when possible should be destroyed or disinfected by heat.

The patients should be immediately isolated and segregated in hospital and the apartment occupied by them thoroughly disinfected, their clothing, &c., being dealt with as described above.

The other occupants of an affected house should be watched, and if several

cases occur in a house the remainder of the persons, if any there, should be removed from such house to temporary quarters to be under observation. The period of observation should be eight days.

All obstructions to ventilation should be summarily removed from houses.

If there are houses which have contained patients in such numbers and sequence as to make it likely that the plague is indigenous there by reason of the germs multiplying in its structure, such houses should be evacuated and closed, and the woodwork destroyed and burned within the walls: the floor or the ground should be disinfected by quicklime and re-cemented, and it should stand empty with doors and windows open for fourteen days at least. The woodwork may then be renewed and the house reoccupied.—*Supplement to the Calcutta Gazette*, October 14, 1896.

Acknowledgments.

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